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Performance Evaluation of an Industrial Spray Dryer for SO2 Control

TRW Environmental Engineering Div.
Research Triangle Park, NC

Prepared for

Industrial Environmental Research Lab.
Research Triangle Park, NC

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August 1981
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PERFORMANCE EVALUATION OF AN INDUSTRIAL SPRAY DRYER FOR SO_2 CONTROL

by

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16. ABSTRACT The report gives results of a test to evaluate the SO2 removal performance of the lime-spray-dryer/fabric-filter system treating flue gas from the stoker-coal-fired boiler at Celanese's Amcelle plant in Cumberland, MD, in August/September 1980. Continuous monitors were used to collect data according to EPA procedures for compliance testing. Data were collected for 23 days with the boiler operating at about half load. In addition to evaluating SO2 removal by dry flue gas desulfurization, operating experience with the boiler and spray-dryer/baghouse system was obtained for 5 months, ending September 30, 1980. Data were reduced to express SO2 removal on a mass per unit energy input basis as prescribed by EPA. Test results showed the mean SO2 removal efficiency to be 70% (standard deviation of + or -9%) when the sulfur content of the bituminous coal averaged 2%. This efficiency generally was 60-80%, except during system upsets. During the last week of testing, daily SO2 removal averaged about 80%. System availability was 73% over the 25 days of testing and 96% over the last week. Report appendices provide data and computer averages for SO2 removal and the computer program used for data reduction.

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Flue Gases	Fabrics	Stationary Sources	21B	11E
Desulfurization	Coal	Fabric Filters	07A,07D	21D
Sulfur Dioxide	Boilers		07B	13A
Spray Drying	Computer Programs		13H	
Calcium Oxides				

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ABSTRACT

TRW conducted a continuous monitoring test program at the Amcelle Plant of the Celanese Fibers Company in Cumberland, Maryland, to evaluate the performance of a dry process flue gas desulfurization system. This system treated flue gas from a coal-fired stoker boiler. Testing was conducted using methods specified by EPA for 30-day compliance testing, which requires a minimum of 22 days of data containing at least 18 hours of data per day and 2 data points per hour.

Hourly and daily averages of results are presented as well as averages for the entire test period. Operating experience with the spray-dryer/baghouse system is summarized for a 5-month period ending with the completion of testing on September 30, 1980. Brief descriptions of the test site, the flue gas cleaning system, and the continuous monitoring system are included. Manual sampling techniques for data verification are described and the systems for data acquisition, data analysis, and quality assurance, prepared specifically for this program, are presented. Raw process and emissions data are included in the appendices.

Results based on 23 days of data showed the mean SO_2 removal efficiency to be 70 percent over the compliance test when the sulfur content of the coal averaged 2 percent. In general, this efficiency varied within a range of 60 to 80 percent, except for periods of system upset. Particle removal efficiency was measured at 99.7 percent. Particulate emissions averaged 0.030 g/m^3 (0.013 gr/dscf) during the 2 days these data were taken.

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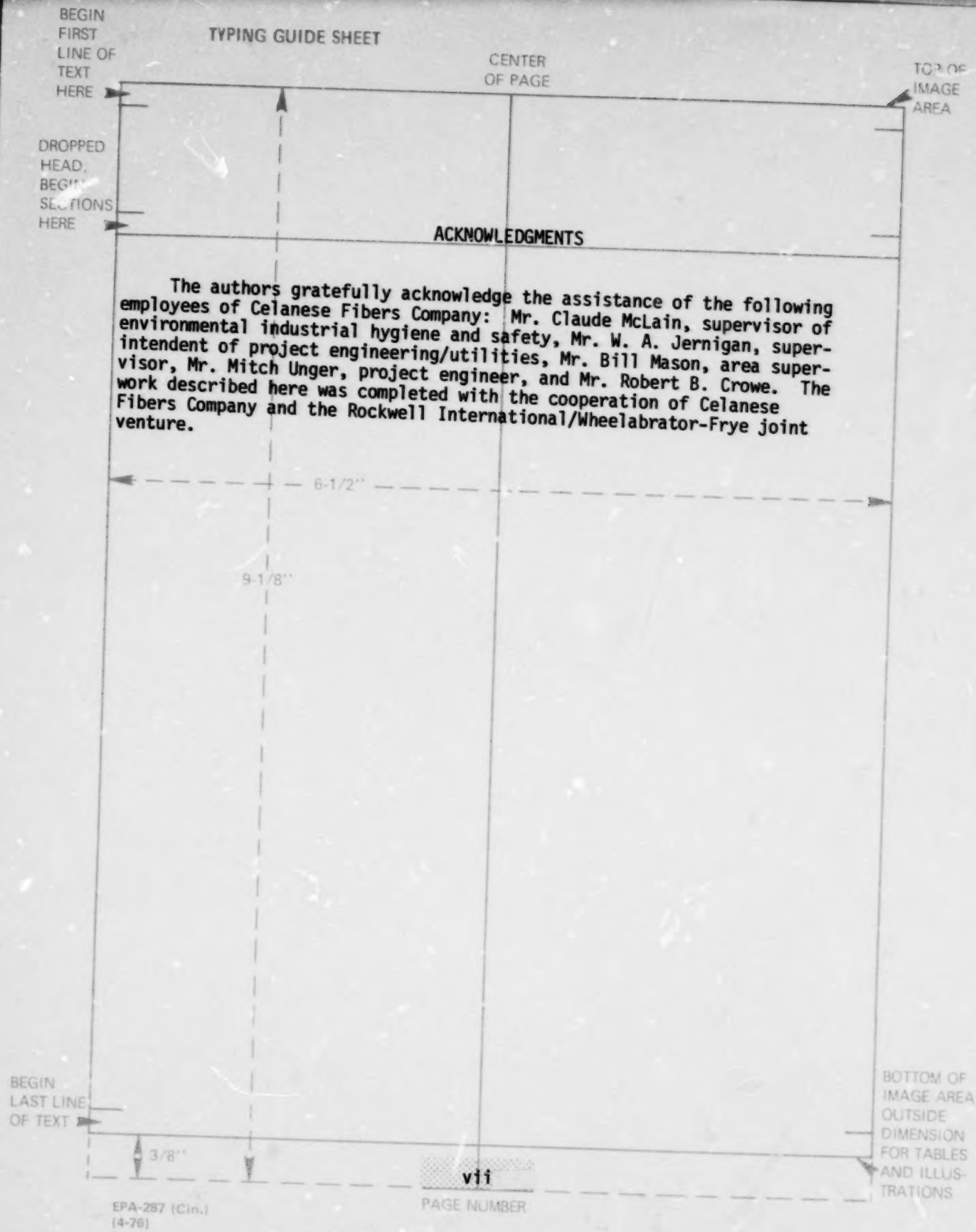
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SECTION 1

INTRODUCTION AND OBJECTIVE

TRW Inc., under contract to the Environmental Protection Agency, performed testing of the dry SO_2 control system serving the coal-fired (No. 5) boiler at the Amcelle Plant of the Celanese Fibers Company in Cumberland, Maryland. Installation and certification of instrumentation at the site for the performance testing were performed by TRW according to provisions for SO_2 compliance testing and began in late April 1980. The test program was concluded in September 1980. This report describes the results of this testing and discusses factors impacting testing and system operation. Because the spray dryer/fabric-filter system for the flue gas desulfurization (FGD) system tested is among the first such commercial units to become operational in the United States, particular attention is given to SO_2 removal performance and system operation and availability. The objective of the program was to collect 30 days of continuous monitoring data, representing proper operation of the flue gas cleaning system, using compliance test methods.

Celanese recognized that replacing their gas/oil fired steam boilers with coal-fired boilers could result in a significant fuel cost savings. Therefore, they moved an Erie City spreader-stoker boiler, which had been mothballed at another facility in Georgia, to Cumberland. To be acceptable, however, ways had to be found to meet air and water regulations. A dry process flue gas cleaning system was chosen because of its smaller space requirements and minimized waste disposal problems in comparison with a wet process. Celanese placed the order for such a flue gas cleaning system in January 1979. Construction of the system by Rockwell International and Wheelabrator-Frye was completed in October 1979; however, boiler installation was not completed until mid-December 1979. Compliance testing of the FGD system was completed on February 21, 1980.

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SECTION 2

CONCLUSIONS

The main interest of this program was the SO_2 removal performance of the dry FGD system. Enough information was gathered in the areas of particulate emissions and system availability to also make some conclusions in these areas. Data presented and discussed in later sections support the following conclusions:

- The average SO_2 removal efficiency demonstrated by this dry FGD system over a 30-day period, based on 23 days of acceptable data, was 70 percent. This level of performance was achieved while burning coal with an average sulfur content of about 2.0 percent on a dry basis. System guarantees called for 70 percent SO_2 removal for 1 percent sulfur coal and 87 percent SO_2 removal for 2 percent sulfur coal. Compared with these goals, demonstrated SO_2 removal was low.

- Over the last six days of the program, after several operational difficulties had been resolved, SO_2 removal efficiency averaged 78.5 percent. This was a marked improvement over earlier results but still below the stated goal with 2 percent sulfur coal.

- The removal of particulate matter from the flue gas stream, based on tests performed at the inlet to the spray dryer and in the stack on June 2 and 3, 1980, averaged 99.7 percent. Emission of particulate matter during these tests averaged 0.030 g/m^3 (0.013 gr/dscf).

- During the 30-day period in September 1980 when the continuous monitoring data were collected, the FGD system was operating at least 81 percent of the time. Part of this period, however, represented abnormal operation. The system was operated normally for at least 73 percent of the period. Most of the operating problems experienced were related to grit plugging the spray dryer atomizer or maintenance requirements of the slurry pumps. Some of these problems were solved subsequent to this program according to information supplied by the joint venture of Rockwell International and Wheelabrator-Frye.

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SECTION 3

RECOMMENDATIONS

The two-stage dry FGD system as installed at the Celanese Fibers Company required 28 to 46 hours of maintenance each week and close operating supervision for continuous operation. Modifications made to the system after operating experience had been gained have the potential to make this a more reliable system. Most of the operating problems related to plugging caused by grit in the slurry and water vapor condensing in the flue gas due to low operating temperatures at the spray dryer outlet. Both of these problems can be solved through changes in operation and design. Maintenance needs will also be reduced by these modifications.

Because of problems experienced during this program, redundancy of critical components is recommended. Specifically, three slurry pumps are needed with two on line at all times and one as a spare. A spare atomizer is necessary to limit spray dryer shutdowns due to atomizer failure. Filters should be set up to provide grit-free uninterrupted slurry flow to the spray dryer during periods when one filter element is being replaced or cleaned. A means of keeping the outlet SO_2 monitor operating continuously is needed. This will permit a steadier outlet SO_2 level and more consistent FGD system performance via operation in the automatic control mode.

Although analysis of operability was not a stated objective of this program, the data indicate a positive correlation between SO_2 removal performance and system operability. Because of this correlation, TRW recommends that a log describing the FGD system's daily operation (specifying problems, length of down periods, types and duration of abnormal operation, and maintenance requirements) be kept by the system's operators at Celanese Fibers Company. It is further recommended that EPA be given periodic access to this log to determine the long-term operability and reliability of the system. If further evaluation of SO_2 removal performance is desired, this log could be used to indicate a time when operating problems discussed in this report have been solved and operability is at a high level. Testing at such a time would give an account of the system's optimized potential for SO_2 removal.

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SECTION 4

RESULTS

DESCRIPTION OF THE DATA COLLECTION PERIOD

TRW began collecting data for the demonstration test phase in May 1980. Problems with the boiler, the FGD system, and the continuous monitoring system delayed completion of this test phase until September 30, 1980. The nature of these problems will be discussed in Section 5. The collection of 30 days of continuous data was confined to the period between August 28, 1980, and September 30, 1980. Data collected before this period were not included in the final tabulation of results because of the above problems.

The collected data included SO_2 and O_2 concentrations at the inlet and outlet of the FGD system. These flue gas streams were sampled and analyzed continuously, but the resulting data were recorded only four times per hour. These values were then averaged to derive the hourly average value for each parameter.

SO_2 REMOVAL EFFICIENCY

The collected data allow for the analysis of the SO_2 removal efficiency of the system on an hourly, daily, or monthly basis. This record of SO_2 removal performance by the FGD system was correlated with a record of system operating problems. Periods of known system upset were thus removed from the calculation of the 30-day average removal efficiency. Copies of all the computer outputs for the 30-day period, showing raw data and computed averages, are included in Appendix A.

Hourly Variations in SO_2 Removal

Typical hourly data values for inlet and outlet SO_2 concentrations are shown in Figures 4-1 and 4-2. These data are representative of the 23 days when continuous monitoring methods met EPA's compliance criteria. These criteria included collection of data for over 18 hours daily with the FGD system treating boiler flue gas. The results are indicative of the two different modes under which the FGD system was operated. Figure 4-1 shows that the outlet SO_2 concentration, which was measured in the stack, follows closely the SO_2 concentration at the inlet to the spray dryer. This indicates that no corrective action was taken to adjust slurry flow rate for varying inlet SO_2 concentrations. This type

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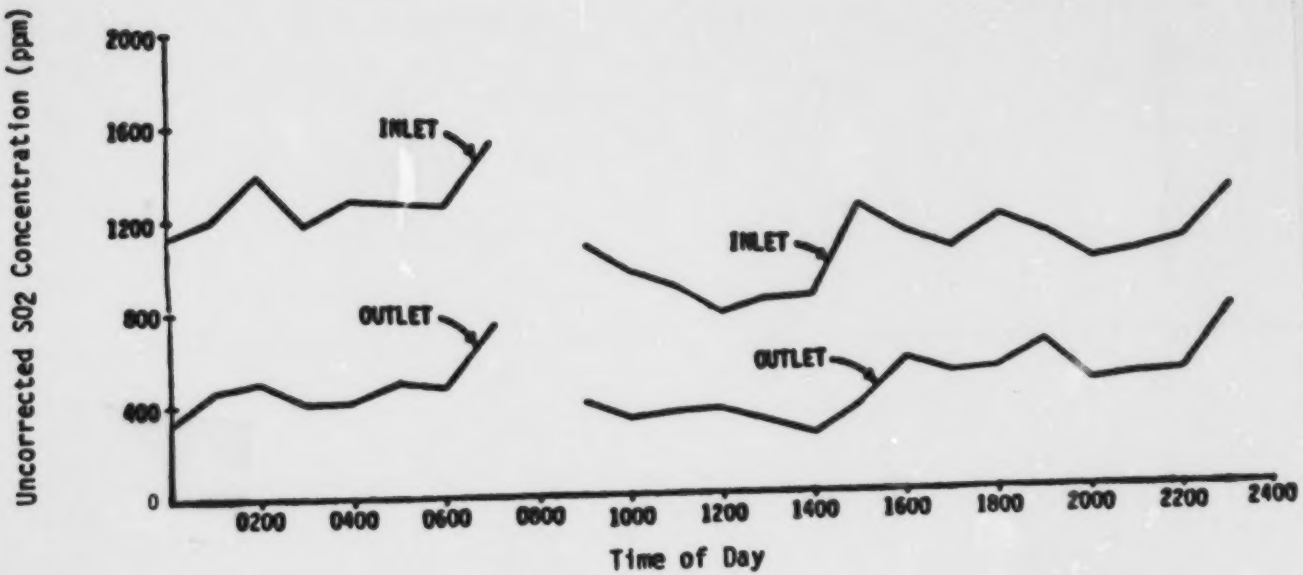

Figure 4-1. Average hourly SO_2 concentrations for September 3, 1980 with FGD system controlled manually.

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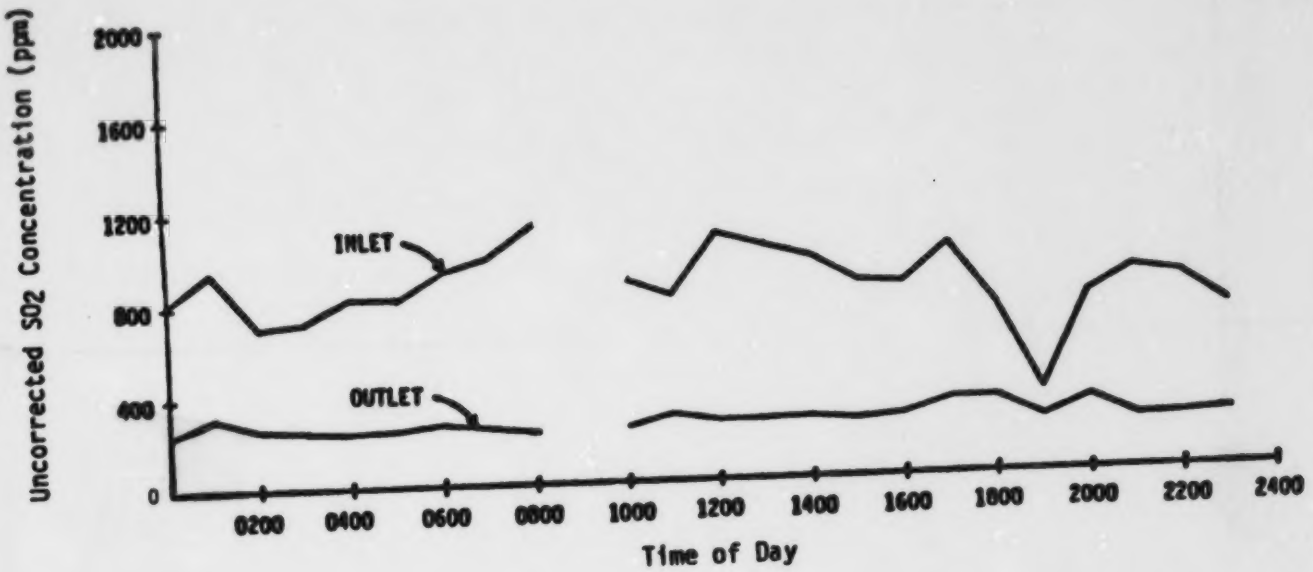

Figure 4-2. Average hourly SO_2 concentrations for September 8, 1980 with dry FGD system controlled automatically.

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of system operation was defined as manual control because the flow rate of lime slurry was set at a constant level by the system operator. With the FGD system in the automatic control mode, the outlet SO_2 concentration (see Figure 4-2) was relatively constant, indicating that the slurry flow was adjusted to accommodate all changes in inlet SO_2 concentration. Although the FGD system was designed to operate automatically, this was not always possible because of malfunctions in the plant's stack SO_2 monitor which provided feedback to the spray dryer lime slurry flow control system. Problems with this monitor necessitated extended periods of manual operation. Under manual operation, the slurry flow sometimes became so high that the outlet concentrations were 50 ppm or less. On these occasions, SO_2 removal efficiencies exceeded 90 percent.

Curves similar to Figures 4-1 and 4-2 were prepared for daily emissions data. These curves are included in Appendix B. The data plotted on these curves are uncorrected SO_2 emissions. These values were corrected to a standard excess oxygen concentration (0 percent) and converted to pounds of SO_2 emitted per million Btu heat input to the boiler using F-factors. An F-factor is the ratio of the quantity of dry effluent gas generated by combustion to the gross calorific value of the fuel. Typical data for SO_2 removal efficiencies calculated using these values are given in Figures 4-3 and 4-4. These data are representative in that they show how removal efficiency was not constant but varied from hour to hour. They also show a number of "bad hours" each day, due to calibration of the continuous monitors or FGD system upset, during which insufficient data were obtained to calculate the removal efficiency. Hourly SO_2 removal efficiencies for each day of the test program are included in Appendix C. In general, SO_2 removal efficiency varied between 60 percent and 80 percent except for periods in which there was a malfunction in the system.

Daily Variations in SO_2 Removal

The average daily SO_2 removal efficiencies for the continuous monitoring period are given in Figure 4-5. The only prolonged period of low SO_2 removal occurred between September 3 and 6 and stemmed from the inability to maintain steady boiler load and slurry pumping problems. Over the last 6 days of the test program, the average daily SO_2 removal efficiency remained near 80 percent, based on 23 hours of hourly averaged data for each day. Periods of system upset are indicated on the figure to show how the daily average removal efficiencies were dependent upon the operability of the system.

Thirty-Day Average SO_2 Removal

The mean SO_2 removal efficiency for the 23 days of performance data was 70 percent (see Figure 4-6), and the standard deviation was $\pm$ 9 percent. This average did not include any data from the following dates: 8/28, 9/4, 9/5, 9/6, and 9/11. These days were excluded because upsets to the system caused abnormal performance.

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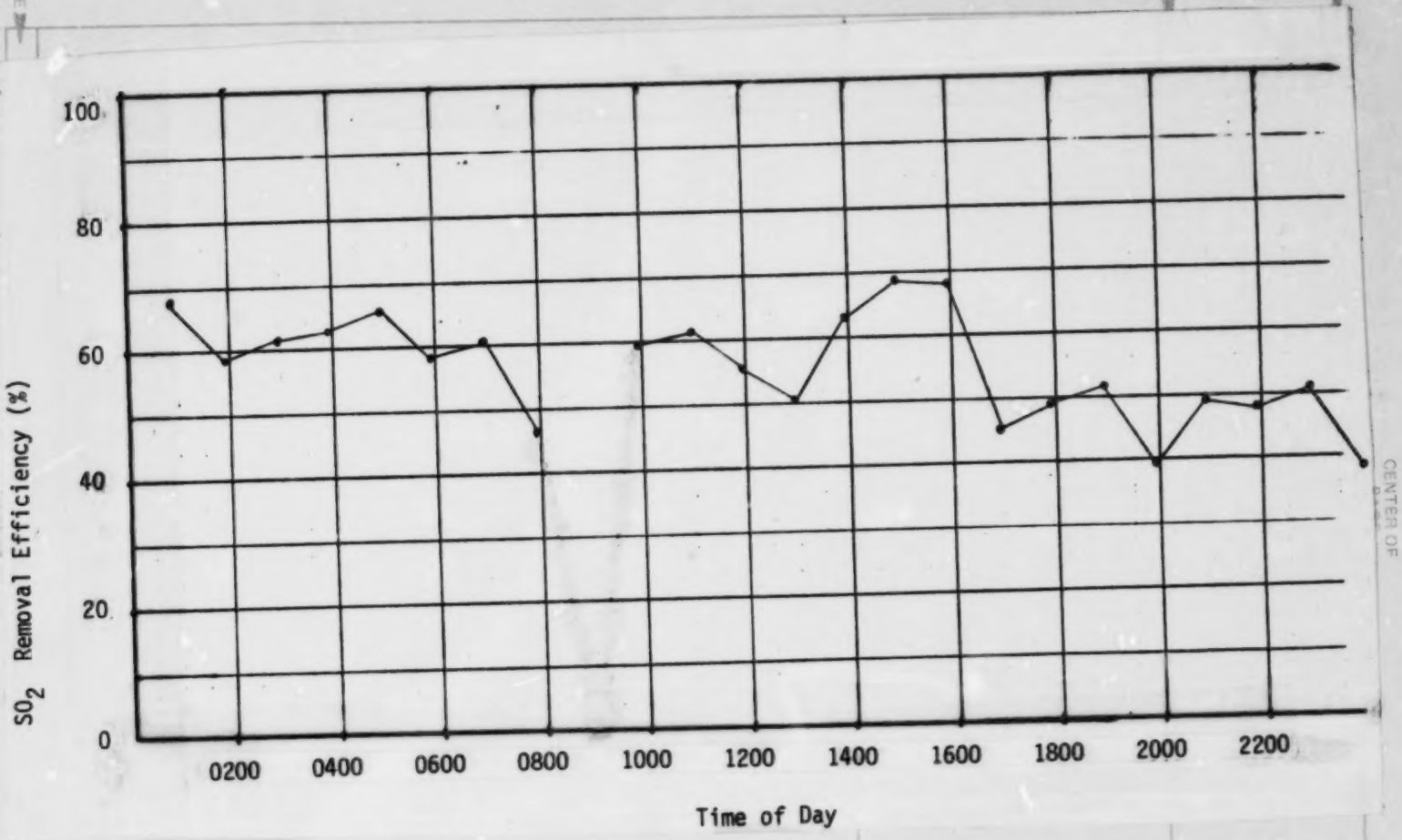

Figure 4-3. Hourly* SO_2 removal efficiencies for September 3, 1980.

*Data gaps are due to insufficient data collected during that hour. The most common cause is daily calibration of the instruments at about 0900.

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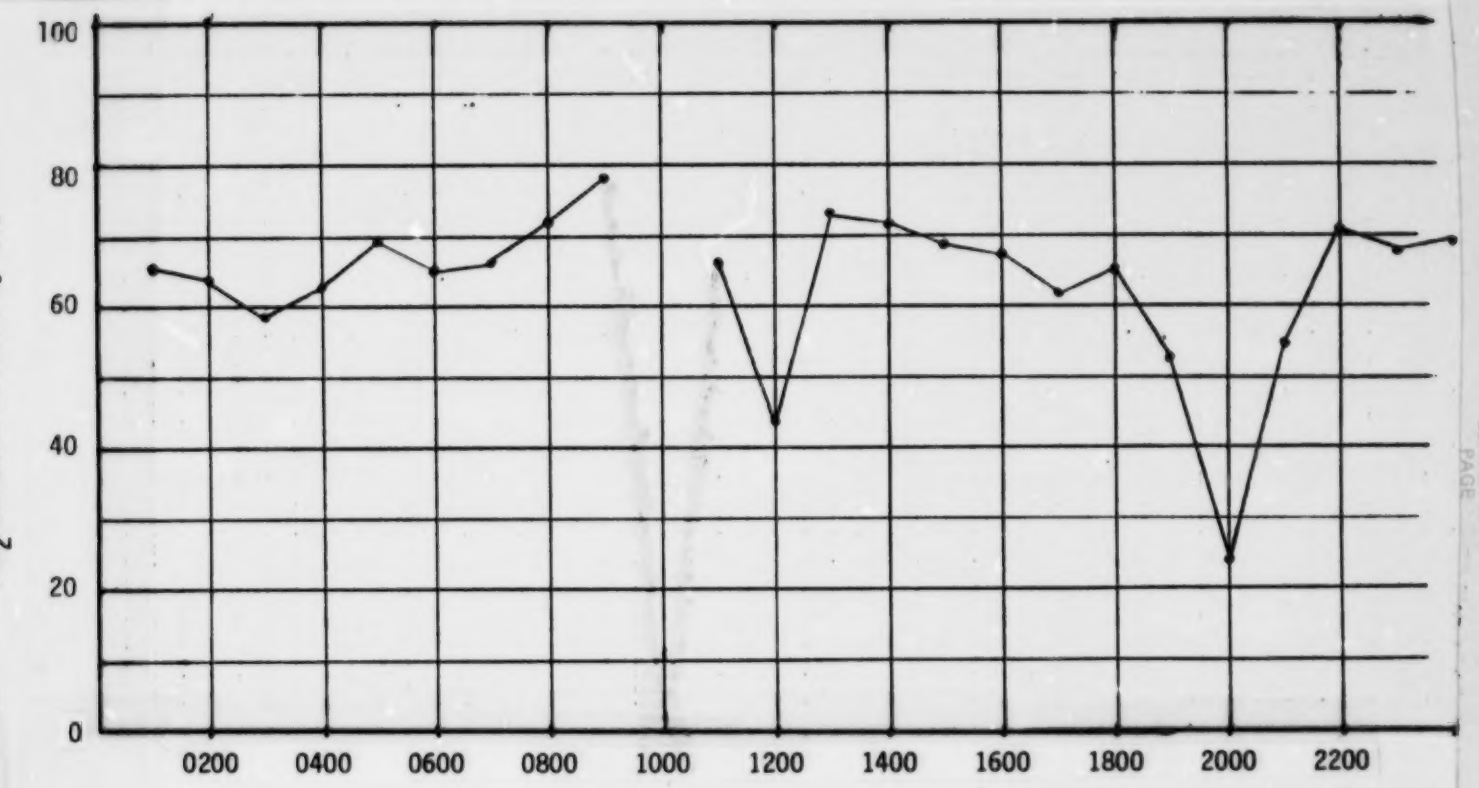

Figure 4-4. Hourly SO_2 removal efficiencies for September 8, 1980.

*Data gaps are due to insufficient data collected during that hour. The most common cause is daily calibration of the instruments at about 0900.

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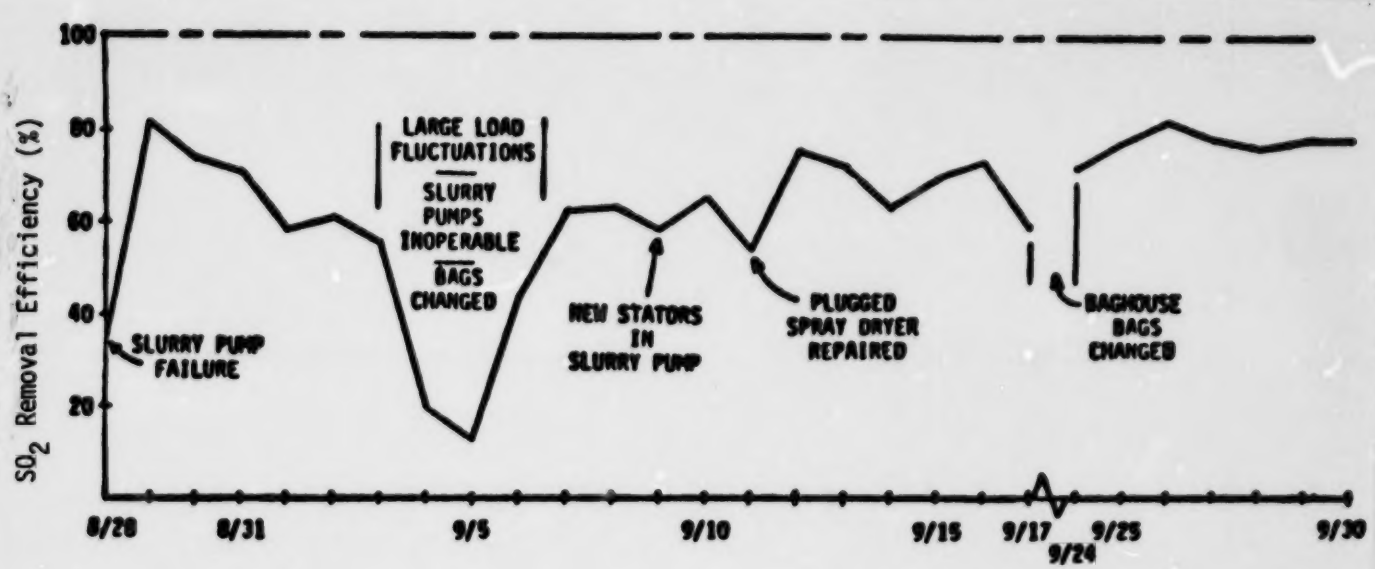

Figure 4-5. Average daily SO_2 removal efficiency for dry FGD system.

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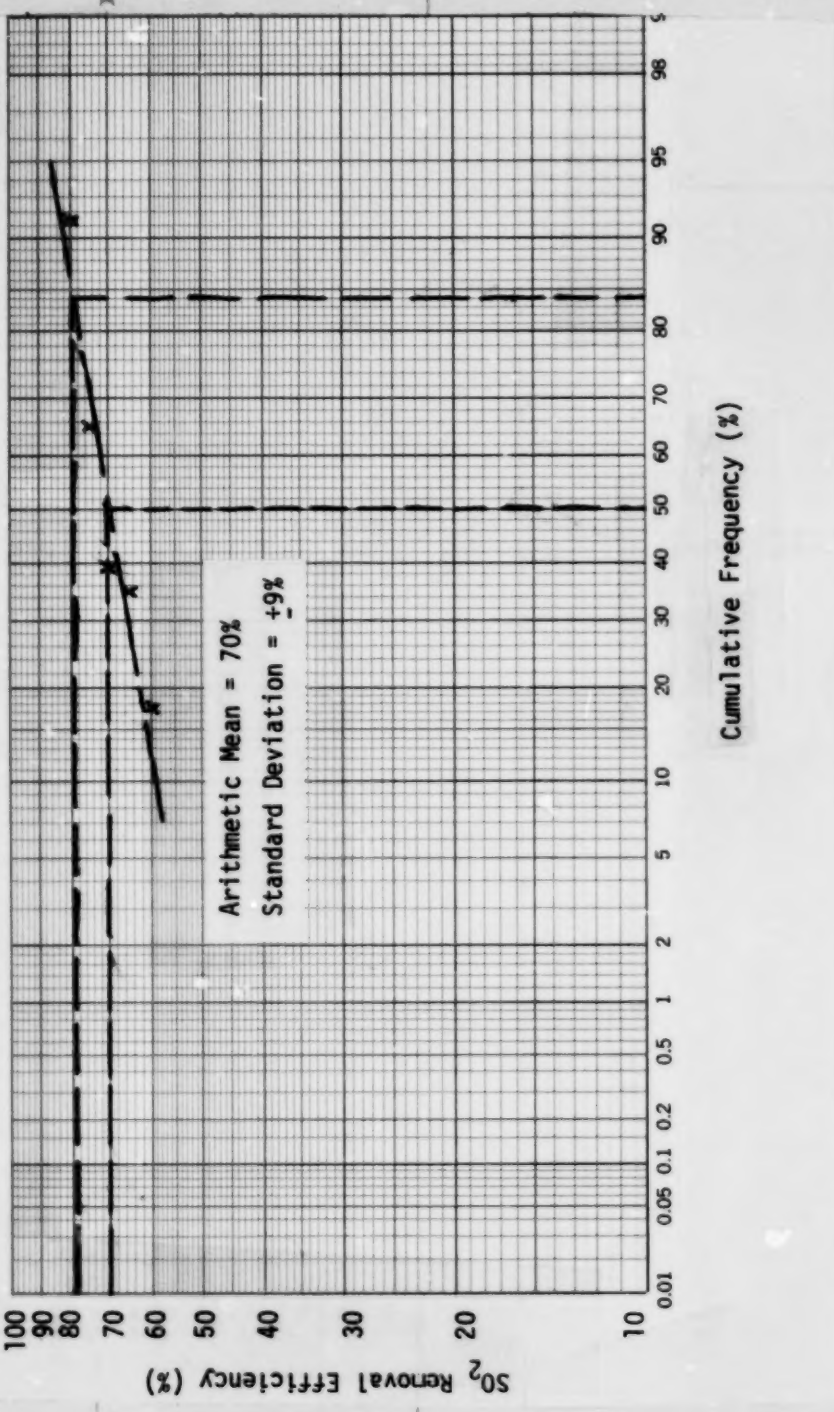

Figure 4-6. Distribution of SO_2 removal efficiencies.

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No parametric tests were conducted during this program; hence, no quantitative correlations between operating variables (boiler heat input, flue gas flow rate, inlet and outlet SO_2 concentration, coal sulfur content and stoichiometric ratio) were determined. SO_2 removal was more a function of the spray dryer condition and performance than the boiler variables.

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PROCESS DATA AND COAL PROPERTIES

The following process data were collected:

- Daily coal feed rate,
- Continuous steam flow rate,
- Steam temperature,
- Steam pressure, and
- Flue gas temperature

No measurement was available of the lime slurry feed rate. Samples of the lime and coal supplies were obtained daily by TRW. These samples were labeled and stored at TRW. A proximate analysis, which was made available to TRW, accompanied each coal shipment received by Celanese. The average heat content for these coal shipments was 28.84 kJ/g (12,423 Btu/lb) and the average sulfur content was 1.92 percent, both on an as-received basis.

SYSTEM ECONOMICS

Capital costs for the system are reported as $1.25 million, but this sum does not include all system costs. Celanese provided the foundations, ash handling, and field wiring, while the given sum was for the spray dryer, baghouse, and lime system. Because the vendor and the buyer consider total capital and operating and maintenance costs to be proprietary, these costs have not been released.

Based on operating data from Celanese, daily lime costs are approximately $175. Other operating and maintenance costs are unavailable at this time.

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SECTION 5

OPERATING EXPERIENCE

TEST PROGRAM DELAYS

Operating problems encountered and their effects on the program were broken down among four system components. These were the boiler, the lime feed system, the spray dryer, and the fabric filter. Problems with each of these components impact operation of the entire FGD system.

Steam Boiler

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The boiler operated entirely with eastern coal at about half of its rated load with relatively steady steam production for most of the monitoring period. After initial delays caused by necessary refractory repairs, the boiler went off line only once more during the test period for refractory repairs. This problem had no effect on the FGD system other than interrupting the source of flue gas. A tube leak in the boiler was suspected when one of the ducts in the FGD system became plugged due to moisture. When the plugging problem occurred, the boiler was taken off line for inspection. No tube leaks were found so attention was turned to other potential sources of excess moisture in the flue gas.

Another problem that impacted the performance of the FGD system was the variability of coal quality. Coal sulfur content varied widely throughout the early part of the program. The quality became less variable near the end of the program, but proximate analyses of daily coal deliveries gave sulfur contents ranging from 1.25 to 2.76 percent. When operating in an automatic control mode to keep the outlet SO_2 concentration at a set value, the FGD system responded to rapid changes in inlet SO_2 concentration within an hour so that hourly averages of emissions remained constant. Under manual control, the outlet SO_2 concentration followed the inlet concentration in the absence of operator adjustment. With uniform coal quality and automatic control of slurry flow, large fluctuations in the inlet SO_2 concentration were absent and a steady outlet SO_2 concentration was maintained.

Another coal problem involved the amount of fines in the coal. Coal fines, when suddenly dumped into the furnace, caused rapid changes in boiler load and flue gas flow, changes in SO_2 emissions, as well as increased particulate matter and opacity levels in the stack. Fast

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changes in flue gas flow and SO_2 concentration made it difficult for the spray dryer to keep SO_2 emissions at a desired level. Such large and rapid load fluctuations occurred on September 5, 6, and 7.

Finally, there was a fire in the main coal silo. Because of this fire, boiler load had to be reduced temporarily as the silo was emptied. Another coal, higher in sulfur content, was used until this problem was solved, resulting in a lower boiler load of 18,000 kg (40,000 lb) of steam per hour for several days.

Lime Feed System

The lime feed system uses a paste-type slaker with a grit-screen removal system. It is designed to supply sufficient slurry for SO_2 removal from flue gas when burning coal with up to 2 percent sulfur. The slurry is fed to the atomizer by progressing cavity pumps. Under the design conditions, one pump is in use and one is a spare. However, to cope with the higher sulfur coals encountered, the single pump had to be operated at high speeds and this led to rapid pump wear. To alleviate this, the system was modified to use both pumps in parallel operation. This was the normal mode of operation throughout the latter part of the test period.

Most other problems with the lime feed system related to plugging somewhere in the system because of grit in the lime. Although grit was supposed to have been removed by a screen inside the slaker, damaging quantities passed through or bypassed the screen into the rest of the system. Failure to remove grit caused plugging inside the flow lines, in the slurry pump, and in valves at various times, in addition to excessive wear in the pumps. Dual element screen filters were eventually installed in the feed system, but not enough time elapsed before the end of the program to assess whether they solved the problem. It was reported later by Jerry Swanson of Rockwell International that this resolved the problem of grit pluggage in the feed system.

Spray Dryer

There were three types of problems that occurred within the spray dryer. One of them resulted in the wetting of the dryer wall and discharge of damp material from the dryer. This was caused by maldistribution of lime slurry in the atomizer and was corrected by redesign. The other two problems encountered with the spray dryer also related to the atomizer. The spray machine was subject to clogging with grit particles if they were not screened sufficiently from the slurry. The spray dryer was shut down for cleaning when this clogging occurred. The other problem was early failure of the bearings supporting the shaft of the atomizer wheel, caused by an unbalance of the atomizer wheel.

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Fabric Filter

Other difficulties that affected performance of the FGD system were experienced in the fabric filter (baghouse). The most serious problem was the unexpectedly high pressure drop through the filter. This was apparently caused by moisture on the bags which occurred during an upset and combined with ash and lime to form a coating that increased the resistance to flow. These bags were replaced and modifications were made to increase the pulse-jet air volume by approximately 15 percent to improve particle removal from the bags. Tests since this modification indicate that this has solved the flow-resistance problem. Finally, there was a reduction in SO_2 removal efficiency immediately after bag replacement, presumably due to an absence of filter cake containing lime on the new bags.

SYSTEM AVAILABILITY

Preparation for the continuous monitoring program at the plant site began in April 1980. The boiler went down for refractory repairs on April 20. From that date through the end of the test program on September 30, the boiler was off line approximately 12 percent of the time. It was on line but running abnormally an additional 5 percent. Thus, boiler problems prevented representative characterization of the FGD system for about 17 percent of the time TRW was on site. This amounted to 672 hours out of 3,912 hours in the period.

The FGD system was off line (not operating at all) about 23 percent of the time. Reasons for this down time are given in Table 5-1. The FGD system operated abnormally an additional 12 percent of the time. During this time the slurry feed rates were so low or unsteady that monitoring of any significant SO_2 scrubbing was prevented. Thus, the FGD system was unavailable 35 percent of the time, or a total of 1,354 hours.

The availability of the system was significantly improved in September when most of the continuous monitoring data were collected. During this period the FGD system was off line less than 19 percent of the time and operated abnormally an additional 8 percent of the time, giving an availability of 73 percent. Table 5-1 summarizes the availability of the boiler and FGD system during the test program.

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TABLE 5-1. BOILER AND FLUE GAS CLEANING SYSTEM STATUS DURING TEST PERIOD

Period of performance	System status	Duration system was affected (hours)
4/20/80 - 5/3/80	Boiler not operating - Refractory repairs	312
5/4/80 - 5/7/80	FGD system not operating - Checking out boiler	96
5/13/80	FGD system not operating - Off line due to plugging in bypass	11
5/14/80 - 5/23/80	FGD system operating intermittently - Bypass duct plugging	216
5/24/80 - 6/4/80	FGD system operating intermittently - Problem switching between pumps automatically	264
6/6/80 - 6/8/80	FGD system not operating - Modifying slurry pump control	48
6/9/80 - 6/11/80	FGD system operating intermittently - Slaker screen clogged	48
6/12/80	FGD system operating at 50% capacity - Bypass elbow plugging	24
6/13/80 - 6/15/80	FGD system operating intermittently - Problems switching pumps	48
6/16/80 - 6/17/80	FGD system not operating - Off line for repairs	23
6/18/80 - 6/19/80	FGD system not operating - Off line for repairs	24
6/22/80 - 7/3/80	FGD system not operating (boiler not operating 6/25/80 - 7/2/80)	264
7/6/80 - 7/15/80	FGD system operating intermittently	
7/16/80	FGD system working well	-
7/17/80	Spray dryer off line	4
7/18/80	Spray dryer off line	-
7/20/80	Spray dryer off line - Atomizer clogged, bearings replaced	6
7/21/80	Spray dryer off line	2
7/23/80 - 7/25/80	Spray dryer off line - Cleared clogged scroll plate	60
7/27/80	Spray dryer off line - Bearing failure	12

(continued)

TABLE 5-1. "continued"

Period of Performance	System status	Duration system was affected (hours)
8/14/80 - 8/15/80	Problems with boiler - Fire in coal silo	24
8/20/80	Boiler coal supply varied from 1.6% to 2.8% sulfur	-
8/24/80 - 8/25/80	FGD system not operating	24
8/28/80 (0000-1600)	FGD system not operating - Slurry pump failed	16
8/29/80	FGD system fluctuating	-
9/5/80	Boiler operating at low load	4
9/5/80 - 9/6/80	FGD system not operating - Slurry pump being repaired Boiler not operating properly - large load fluctuations	24
9/6/80	FGD system on line at 1500 hours	-
9/7/80	FGD system not operating - Atomizer plugged	4
9/7/80 - 9/8/80	Boiler load unsteady	24
9/9/80	FGD system not operating - New stators installed in slurry pumps	1
9/10/80	FGD system plugged temporarily- Atomizer plugged	2
9/11/80	FGD system not operating - Atomizer plugged	4
9/12/80	FGD system not operating - Screens cleaned	1
9/17/80	Changed baghouse #2 bags	4
9/21/80	Installed air-driven diaphragm slurry pump	-
9/25/80	3-way valve stuck in flush mode	0.5
9/26/80	FGD system not operating - Installed new dual element screen filters	4
9/27/80	Air-driven pump removed, normal pumps reinstalled	0

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SECTION 6

DESCRIPTION OF THE TEST SITE

This section discusses the operation of the Celanese Amcelle synthetic fibers plant and the coal stoker boiler as they interface with the flue gas desulfurization system.

THE CELANESE SYNTHETIC FIBERS PLANT

The Celanese synthetic fibers plant at Cumberland, Maryland, produces acetate fibers which are used in a wide variety of consumer goods, including clothing, outerwear, and rainwear. The steam requirements at the manufacturing plant include process steam, space heating, and hot water. Because of these steam requirements, Celanese, as is true for most of the manufacturing industry in the United States, has had to cope with ever-increasing fuel costs. As a consequence, Celanese recognized that replacing their gas/fuel oil-fired steam boilers with coal-fired boilers could result in a fuel cost savings of several thousand dollars per day. However, a major tradeoff also exists with the conversion of the steam boilers from gas/fuel oil to coal. This involves the necessity of ensuring that the newly-installed coal-fired boilers meet the applicable environmental standards, especially those for atmospheric SO_2 and particulate emissions. After determining that these tradeoffs were technically and economically feasible, Celanese installed a coal-fired, spreader-stoker boiler at the Cumberland facility. In addition, a lime-based dry flue gas cleaning system was installed to control SO_2 and particulate emissions from the spreader-stoker boiler. A description of the spreader-stoker boiler and the flue gas cleaning system follows.

THE SPREADER-STOKER STEAM BOILER

The coal-fired, spreader-stoker steam boiler installed at the Celanese site was a mothballed Erie City unit which had been in use at a Celanese plant in Georgia. The boiler and its support system (coal supply and ash handling) are depicted in Figure 6-1.

Because of the Cumberland manufacturing site's close proximity to regional coal supplies, only truck unloading facilities are provided. Coal is unloaded and conveyed to a coal silo where it is first stored on a live shelf (which feeds the coal feeder) and the overflow is stored in a dead storage area. As the coal supply is introduced to the coal feeder from the live shelf, replacement coal is moved from the dead

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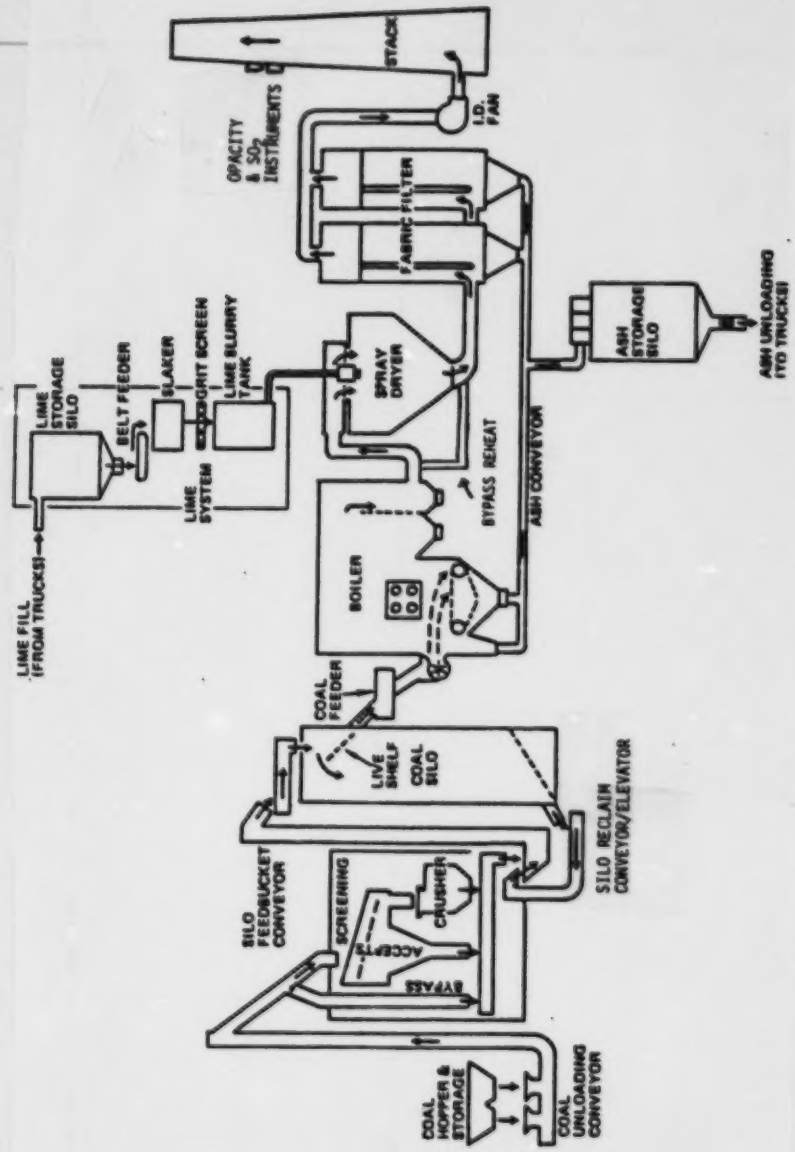

Figure 6-1. Celanese boiler and flue gas cleaning system.

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storage area to the live shelf via a reclaim conveyor/elevator. The total capacity of the silo is approximately 680 megagrams (750 tons), which is equivalent to a 5-day supply at full boiler load.

Coal, which meets a 4 x 0 in. specification, is delivered to the Celanese site. It is then introduced to a screen which removes all coal smaller than the 1¼ x 0 in. All coal not passing through the screen is routed to the crusher which reduces the coal to meet the 1¼ x 0 in. specification. The crushed coal is then combined with the coal which had originally passed through the screen and both are then routed to the live shelf of the coal silo. From here, the coal is supplied to the boiler through a batch-type weigh belt that measures coal usage (by counting the number of bucket dumps into the boiler).

Coal burned during the test program at Celanese had a mean high heating value on an as-received basis of 28,900 kJ/kg (12,400 Btu/lb) with a range of 27,700 kJ/kg (11,900 Btu/lb) to 30,200 kJ/kg (13,000 Btu/lb). In addition, the fuel sulfur content of the coal burned during the test program averaged 1.92 percent sulfur on a as-received basis with a range of 1.28 percent to 2.71 percent. Ash content for the coal averaged 14.91 percent on an as-received basis, ranging from a low of 11.66 percent to a high of 17.38 percent. Table 6-1 presents the reported analyses of the various coals burned during the test program.

As mentioned previously, the steam boiler is a spreader-stoker type, manufactured by Erie City (Zurn Energy Division) in 1964. It is an open-pass, two-drum design with a design capacity of 50,000 kg/hr (110,000 lb/hr) of 5.1 x 10^6 Pa (725 psig) steam at 371°C (700°F). Additionally, 18,000 kg/hr (40,000 lb/hr) of steam can be generated by auxiliary side-firing of natural gas or fuel oil.

During installation of the steam boiler at the Cumberland site, modifications were made to the boiler to update the design to current specifications. These modifications included reworking the front and rear walls to remove the headers from the fire zone and from below the feeders.

A traveling grate for continuous ash discharge is used. The ash transfer system to the storage silo is a standard system with the necessary vacuum generated by a steam-powered ejector.

THE DRY FLUE GAS CLEANING SYSTEM

The gas cleaning system consists of a single 6.1-m (20-ft) diameter spray dryer in series with a four-compartment, pulse-type fabric filter; lime unloading, storage, and conveying equipment; lime slaking and feed preparation equipment; connecting ducting; and associated auxiliary equipment and controls. A flow diagram of the gas cleaning system is shown in Figure 6-2.

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TABLE 6-1. ANALYSES OF COALS BURNED DURING TEST PROGRAM

Date of analysis	Sample number	Heating value as-received Btu/lb (kJ/kg)	Heating value dry Btu/lb (kJ/kg)	Sulfur content as-received %	Sulfur content dry %	Ash as-received %
08-29-80	NA	12,406	12,807	1.50	1.55	15.50
09-05-80	9-3-60	12,406	12,799	1.88	1.94	15.37
09-03-80	9-3-61	12,497	12,780	1.74	1.78	15.48
09-03-80	9-3-63	12,568	12,882	1.87	1.92	14.91
09-03-80	9-3-64	12,383	12,829	2.43	2.52	15.13
09-03-80	9-3-62	12,578	12,933	1.87	1.92	14.18
09-05-80	NA	13,004	13,387	1.28	1.32	11.66
09-12-80	9-12-124	12,341	12,972	1.29	1.36	13.97
09-12-80	9-12-125	12,267	12,825	2.52	2.64	14.23
09-12-80	9-12-127	12,856	13,116	1.64	1.67	13.09
09-12-80	9-12-128	12,179	12,693	1.95	2.03	14.99
09-12-80	9-12-129	12,169	12,604	2.14	2.22	16.45
09-23-80	NA	12,110	12,653	2.14	2.24	16.81
09-23-80	NA	12,306	12,578	2.13	2.17	15.71
09-23-80	9-23-283	11,942	12,348	1.70	1.76	17.38
09-23-80	9-23-284	12,753	13,004	2.71	2.76	13.62
AVERAGE VALUE		12,423 (28,840)	12,826 (29,780)	1.92	1.99	14.91

NA = not available.

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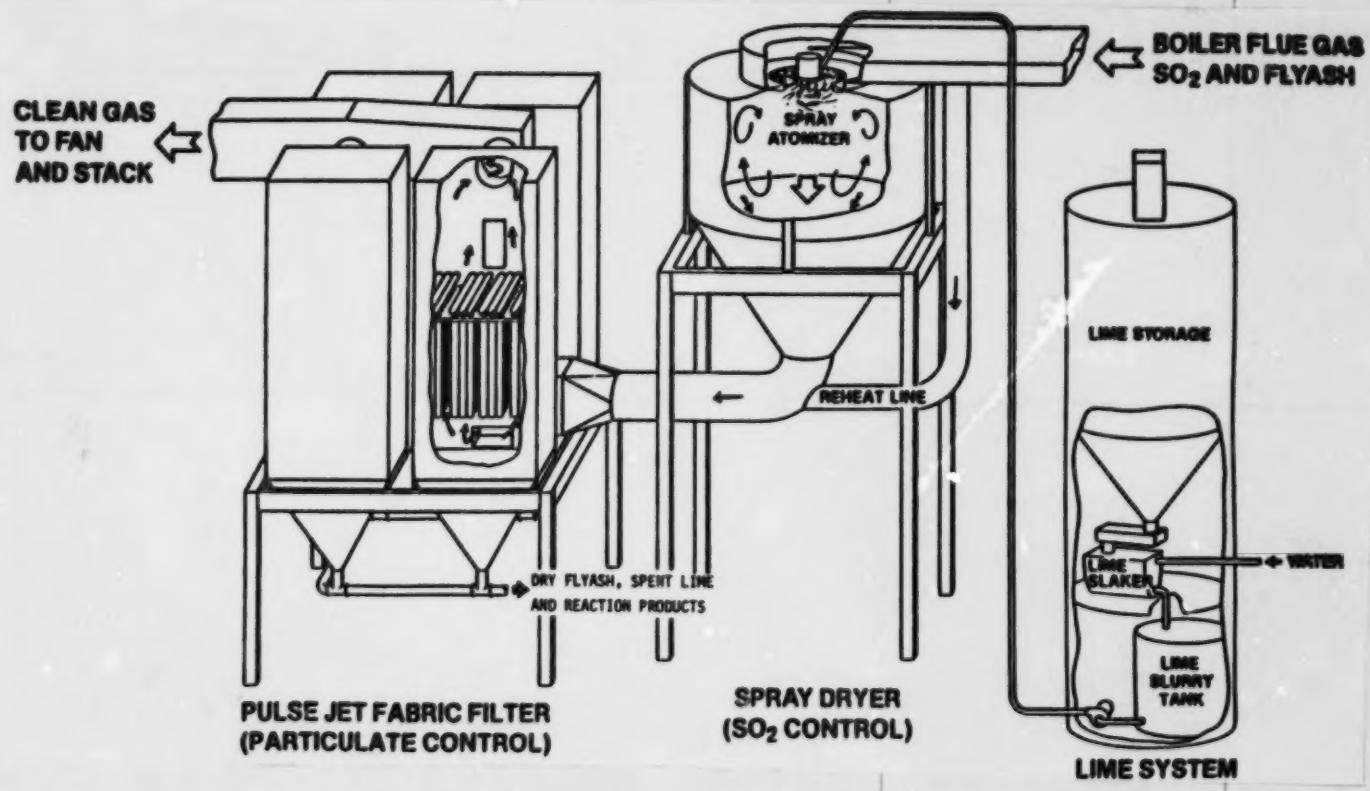

Figure 6-2. Dry flue gas cleaning system.

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The spray dryer centrifugally disperses a fog of lime slurry and water into the flue gas. Sulfur dioxide is absorbed on the water droplets and reacts with the calcium hydroxide via the following simplified reactions:

$$SO_2 + Ca(OH)_2 \rightarrow CaSO_3 + H_2O \quad (1)$$

$$CaSO_3 + 1/2\ O_2 \rightarrow CaSO_4 \quad (2)$$

The atomized droplets rapidly evaporate in the spray dryer, resulting in a desulfurized, cooled, and humidified solids-bearing gas.

The resulting mixture of scrubbed combustion gases, fly ash, dry reaction products, and unreacted sorbent flows from the spray dryer into the four-compartment fabric filter where the solid material contained in the flue gas stream is collected on the filter bags. Additional SO_2 scrubbing occurs on the filter bags because of the presence of unreacted lime in the filter cake. The cleaned flue gas is then discharged through the fabric filter plenum to the induced draft (ID) fan and stack.

Spray Dryer

The gas cleaning system spray dryer, manufactured by Stork-Bowen Engineering, consists of a single 6.1-m (20-ft) diameter vessel containing a rotary atomizer. A precision-balanced, ac-driven, 46-kW (60-hp) electric motor rotates the atomizer wheel at approximately 16,000 rpm. The slurry fed to the wheel is centrifugally dispersed directly into the incoming gas stream. A swirling motion is imparted to the incoming flue gas stream as it enters the top of the spray dryer by means of a fixed-vane rotary ring to increase turbulent mixing of the flue gas and the atomized lime slurry.

Some key operating parameters of the flue gas cleaning system include:

1) A pressure drop of less than 500 Pa (2 in. W.C.)

2) A liquid-to-gas ratio of 0.04 L/m^3 (0.3 gla./1000 ft^3) of water to incoming flue gas

3) Flue gas flow rates from half to full boiler load

4) Lime slurry flow designed to provide flue gas desulfurization removal rates ranging from 70 percent for 1 percent sulfur coals to 87 percent for 2 percent sulfur coal.

Approximately 20 percent of the flue gas exiting the boiler bypasses the spray dryer and is combined with the treated gas leaving the spray dryer. This provides the reheat necessary to raise the temperature of

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the gas stream to a safe margin above the adiabatic saturation temperature at the spray dryer outlet, thus minimizing condensation problems in the baghouse.

The primary controls on the spray dryer limit SO_2 concentration at the exit of the baghouse and adjust the spray dryer exit temperature (the latter to control flue gas temperature at the inlet to the baghouse so as to prevent bag damage). Spray dryer exit temperature is automatically controlled by metering the water feed to the spray dryer. The outlet SO_2 concentration from the baghouse is controlled by the use of a feedback control system. An SO_2 stack gas analyzer provides the input signal and an electronic controller varies the feed rate of the pumps supplying the lime feed to the spray dryer. An override system is provided to allow manual control of the supply pumps when the feedback control is inoperative or malfunctioning.

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Lime System

High-calcium pebble quicklime is supplied to the lime storage area from self-unloading pneumatic trucks which discharge into a dry storage silo. The silo contains approximately a 10-day supply.

The lime preparation system, manufactured by Portube Systems, Ltd., has a design capability of 125 percent delivery when the boiler is fired at its maximum rate using 2 percent sulfur coal and sidefired gas/fuel oil. Lime is gravity fed to the slaker on an "on-off" basis with control via the slurry level in the receiving tank. Lime and water feed rates are manually set to provide a 20 to 30 percent (by weight) slurry.

The concentrated slurry is delivered by controlled pumping from the slurry tank directly to the spray dryer using twin progressive cavity pumps. The lime system features automatic water flushing to minimize scale buildup in the pumps and piping.

Fabric Filter

A four-compartment, pulse-type fabric filter manufactured by Wheelabrator-Frye, Inc., provides particle control downstream of the spray dryer. The baghouse, with 225 bags per compartment, is designed to operate with three compartments on-line when the boiler is operating at its nominal coal-firing rate to produce 50,000 kg/hr (110,000 lb/hr) of steam.

The fabric used is a fiberglass-felt medium manufactured by Huyck. This felt material, Model 1607, can operate at temperatures up to 260°C (500°F), which allows operation of the fabric filter without the spray dryer. The air-to-cloth ratio varies between 2.2 and 6.8 with a design pressure drop of 500 Pa (about 2.0 in. W.C.). Fabric cleaning is initiated based on the pressure drop across the filter.

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SECTION 7

DESCRIPTION OF CONTINUOUS MONITORING SYSTEM

INSTRUMENTATION

The continuous monitoring system was made up of four major groupings. These four groupings consisted of the filter probes and process sample lines, the gaseous analyzers, the data acquisition and recording system, and the remote temperature sensing system. Upon arrival at the test site, these four separate systems were assembled and aligned into one comprehensive system.

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Sampling System

Sampling locations are indicated in Figure 7-1. The inlet sample point was in the rectangular duct between the boiler and the spray dryer. The outlet sample point was in the circular cross-section of the stack. The intermediate sample point was not monitored.

The filter probe assemblies utilized stainless steel filters (20-μm mesh) attached to 76-cm (30-in.) long stainless steel tubes with an outer diameter of 1.3 cm (0.5 in.) and an inner diameter of 0.6 cm (0.2 in.). Connected to this tubing were approximately 30 m (100 ft) of electrically heat-traced sample line, constructed of 0.6 cm (0.2 in.) Teflon tubing. The sample lines were maintained at 177°C (350°F) to prevent condensation from the gas sample.

The gas samples collected at the inlet to the spray dryer and at the outlet of the baghouse were dried using a gas conditioner. This gas conditioner comprised two dual stainless steel condenser traps suspended in a medium of ethylene glycol cooled by a Hanke refrigeration unit with copper cooling coils to approximately 3°C (37°F). The sample was pulled through the condenser traps by two teflon and stainless steel pumps and then delivered to the respective analyzers. The gas conditioner system was connected to a timer which allowed the condenser traps and heat-traced sample lines to individually go into the 760,000 Pa (100 psi) blowback mode for 3 minutes in every hour. A schematic of this sampling system is shown in Figure 7-2. This schematic shows the path of sample gas from the probe to the analyzers and the path of output data from the analyzers to the data logger.

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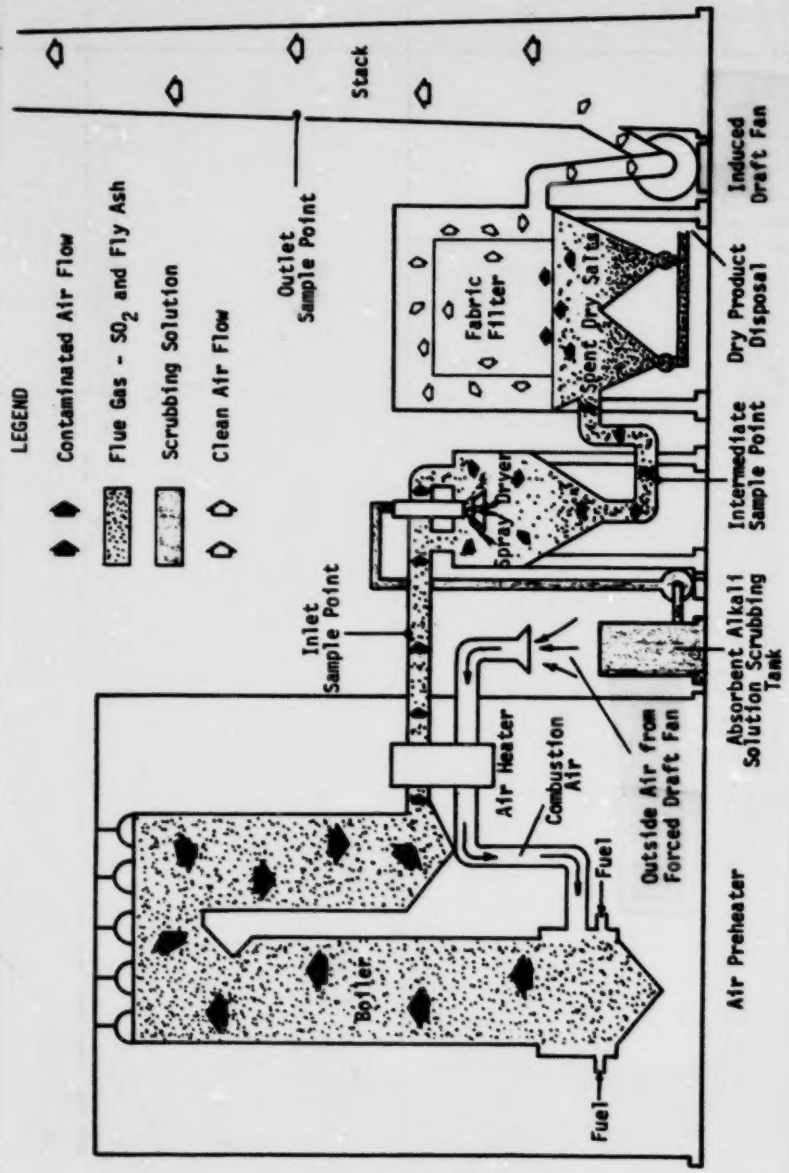

Figure 7-1. Two-stage dry FDG system with TRW sampling positions indicated.

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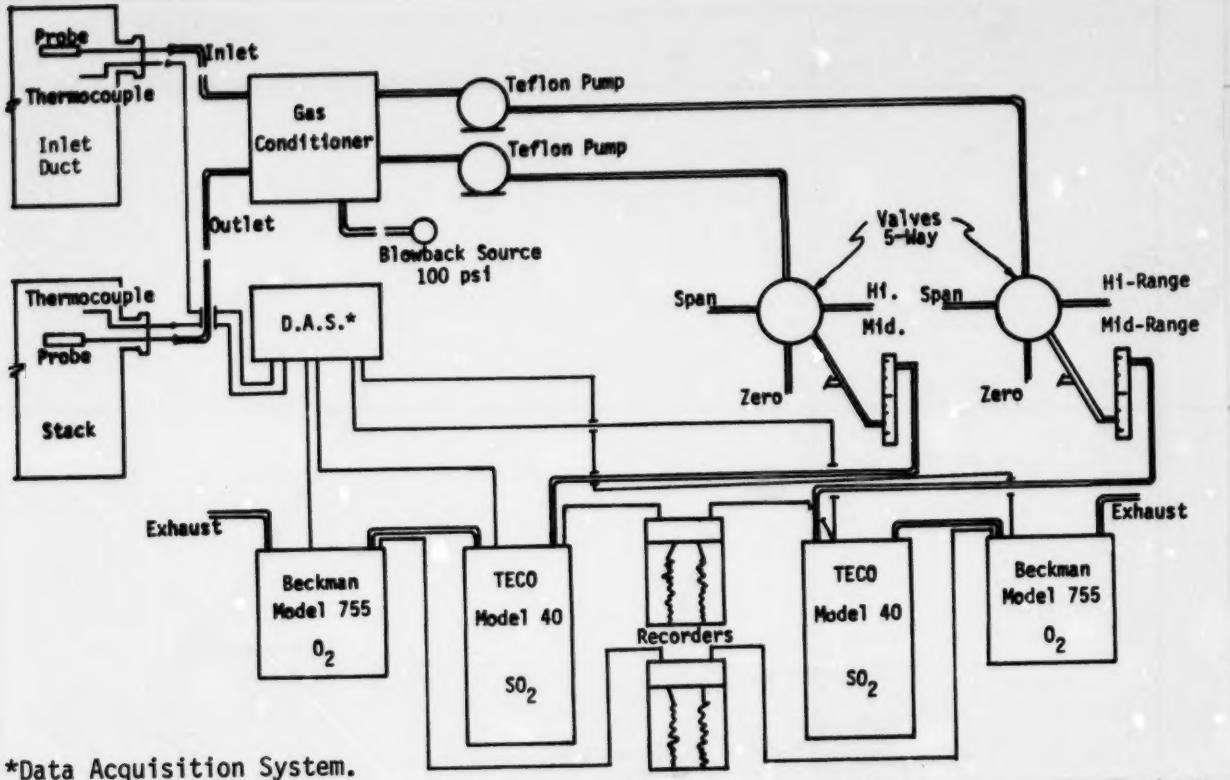

Figure 7-2. Flue gas sampling and analysis system.

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Flue Gas Analyzers

Flue gas was analysed using a Thermo-Electron Pulsed Fluorescent SO_2 analyzer, model 40, and a Beckman Paramagnetic O_2 analyzer, model 755. These analyses were conducted on a continuous basis both for the inlet of the spray dryer and for the outlet of the baghouse (stack). The inlet SO_2 analyzer operated on a 0-5000 ppm full-scale range with a 1-volt full-scale output, while the inlet O_2 analyzer operated on a 0-25 percent of total gas volume full-scale range with a 10-millivolt full-scale output. The outlet SO_2 analyzer operated on a 0-500 ppm full-scale or 0-1000 ppm full-scale range depending on the concentration of SO_2 in the flue gas at the location of the outlet sample probe. The outlet O_2 analyzer operated on the same range as the inlet O_2 analyzer, but with a 1-volt full-scale output.

Prior to the start of this study, a multipoint calibration was performed on the SO_2 analyzers. During the course of this calibration, the responses were recorded, on different full-scale ranges, for each of the six calibrated gas concentrations used. It was determined that the SO_2 analyzers responded linearly on any given range with an r^2 value of 0.9999. This allowed the operator to change full-scale ranges on the SO_2 analyzers, when necessary, without jeopardizing the integrity of the collected data. These range changes were necessary on the outlet SO_2 analyzer because the concentration of SO_2 would rise above 500 ppm whenever the FGD system was off line for scheduled or unscheduled maintenance. The r^2 value is defined as follows:

$$r^2 = 1 - s^2_{y/x}$$

where $s^2_{y/x}$ is the variance of the measured calibration values about a line fitted to them using the least-squares method. Variance and methods for determining it are defined in Reference 1.

CERTIFICATION

The SO_2 and O_2 analyzers were certified according to the procedures outlined in "Performance Specifications 2 and 3 for Continuous Monitors in Stationary Sources" as specified by EPA (44 Federal Register 58602 October 10, 1979). The first certification tests conducted were the monitor response time tests, which measure the amount of time necessary for the monitoring system to reach a stable value after introduction of calibration gas. In each case, the calibration gas was injected into the system at the sampling probe. Test results for each of the SO_2 and O_2 monitors are given in Table 7-1.

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TABLE 7-1. INSTRUMENT RESPONSE TIME RESULTS

Analyzer	Upscale response time (seconds)	Downscale response time (seconds)
O_2 inlet	252	256
	255	252
	251	253
AVERAGE	253	254
O_2 outlet	244	243
	245	244
	248	251
AVERAGE	246	246
SO_2 inlet	238	242
	243	244
	239	236
AVERAGE	240	241
SO_2 outlet	235	239
	233	235
	237	234
AVERAGE	235	236

Relative-accuracy determinations were then performed for the SO_2 analyzers using the average response times for the analyzers obtained during the response time test. These determinations were conducted to ensure close agreement between the results from the SO_2 analyzers and EPA reference methods (specifically, Reference Method 6 for SO_2). Test results are shown in Tables 7-2 and 7-3.

Also during the certification process, 2-hour and 24-hour drift tests were performed. Directly after the daily calibration of the SO_2 and O_2 analyzers, high-level calibration gases were routed to the respective instruments. When the instrument responses had stabilized on the high concentration calibration gases, the voltages were recorded. The calibration value from the adjusted zero response was used for the initial 2-hour and 24-hour drift tests' zero values. At the end of a 2-hour period, zero gas and the high concentration calibration gases were again introduced into the analyzer and the stabilized response voltages recorded. The difference between the initial zero and high span voltages and the zero and high span voltages at the end of the 2-hour period determined the amount of drift during that 2-hour period. This is expressed as percent of the full-scale span value. The ending zero and high span voltages then became the initial voltages for the next 2-hour drift test. The same procedure was followed for the 24-hour drift tests

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TABLE 7-2. RELATIVE ACCURACY DETERMINATION FOR INLET SO_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40

Run No.	Date and time	CO_2 or O_2		SO_2		
		RM	M	RM	M	Diff
		%	%	mass/GCV		
1	8/27 1620	8.6	9.0	2.60	2.59	+0.01
2	8/28 1205	7.6	8.1	3.20	3.14	+0.06
3	8/28 1305	8.7	8.1	3.48	3.16	+0.32
4	8/28 1415	9.9	9.4	3.14	3.16	-0.02
5	8/28 1515	9.0	8.7	3.08	2.96	+0.12
6	8/28 1615	9.0	8.8	2.98	3.22	-0.24
7	8/28 1715	8.7	7.3	3.10	3.21	-0.11
8	8/28 1845	9.4	9.1	2.54	2.73	-0.19
9	8/28 1945	10.1	9.1	2.34	2.58	-0.24
10						
11						
12						
Average				2.94		-0.03
Confidence Interval						0.14
Accuracy				5.8%		

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TABLE 7-3. RELATIVE ACCURACY DETERMINATION FOR OUTLET SO_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40

Run No.	Date and time	CO_2 or O_2		SO_2		
		RM	M	RM	M	Diff
		%	%	mass/GCV		
1	8/28 1005	10.0	9.7	2.90	2.62	+0.28
2	8/29 0845	11.0	10.7	0.37	0.40	-0.03
3	8/29 0945	10.0	9.3	0.96	1.08	-0.12
4	8/29 1045	7.6	7.2	0.41	0.45	-0.04
5	8/29 1145	10.2	10.4	0.25	0.28	-0.03
6	8/29 1245	8.6	9.0	0.15	0.13	+0.02
7	8/29 1345	9.7	9.1	1.08	1.00	+0.08
8	8/29 1500	9.4	9.1	0.63	0.72	-0.09
9	8/29 1600	9.4	9.1	0.72	0.62	+0.10
10						
11						
12						
Average				0.83		+0.02
Confidence Interval						0.09
Accuracy				13.3%		

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except that the time frame was 24 hours instead of 2 hours and the zero and high span gases were introduced to the analyzers just prior to the next day's normal calibration and again after normal calibration to acquire the next set of initial response voltages. The SO_2 high concentration calibration gases used for the 2-hour and 24-hour drift tests were 431 ppm for outlet and 4783 ppm for inlet. The O_2 high concentration calibration gas used for the 2-hour and 24-hour drift tests was 20.9 percent of total volume for both outlet and inlet. Due to the time required to perform the 2-hour drift tests, only 2 to 3 tests could be performed during any given 24-hour period. Results from the zero and calibration drift tests on each respective analyzer are given in Tables 7-4 through 7-11.

Calibration error determination tests were also conducted for each of the four analyzers. Directly after the daily calibration of the instruments, zero, mid-level, and high-level calibration gases were randomly introduced into the respective analyzer until a set of five points for each concentration (zero, mid-level, and high-level) were obtained. The results of the test for each analyzer are given in Tables 7-12 through 7-15.

Both of the SO_2 analyzers and both of the O_2 analyzers passed all of the certification requirements as given by Performance Specification 2 and Performance Specification 3 of the proposed rules for continuous monitors (44 Federal Register 58602 October 10, 1979). In addition, all calibration gases used for instrument certification or instrument calibration were either traceable to National Bureau of Standards reference gases or underwent the calibration gas certification. The latter gases were obtained from the EPA repository and were certified by EPA personnel prior to use in the test program at Celanese.

CALIBRATION

The SO_2 and O_2 analyzers were calibrated on a daily basis, between the hours of 0800 and 1200, utilizing the following procedures. The four analyzers were connected so as to allow them to sample nitrogen (N_2) only. When the instrument responses stabilized on N_2, they were adjusted if necessary. After the instruments were adjusted and restabilized, the response voltages were recorded, thus providing the daily zero point. The analyzers were then connected so as to allow them to sample their respective calibration gases. When the instrument responses stabilized on the calibration gases, they were adjusted if necessary. After the instruments were adjusted and allowed to restabilize, the response voltages were recorded, thus providing the daily span point.

Calibration gases used during the test program which extended from August 28, 1980 to the end of the program on September 30, 1980 are listed in Table 7-16.

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TABLE 7-4. TWO-HOUR ZERO AND CALIBRATION DRIFT DETERMINATION FOR INLET SO_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40, 0-5000 ppm RANGE

Data Set No.	Date	Time Begin	Time End	Zero Rdg. Init. A	Zero Rdg. Fin. B	Zero Drift C=B-A	High-Range Rdg Init. D	High-Range Rdg Fin. E	Span Drift F=E-D	Calib. Drift G=F-C
1	9/8	0945	1145	2	2	0	4724	4713	-11	-11
2	9/8	1145	1350	2	2	0	4713	4712	-1	-1
3	9/9	1015	1210	-1	2	3	1758	4716	-42	-45
4	9/9	1210	1408	2	2	0	4716	4712	-4	-4
5	9/9	1408	1600	1	3	2	4712	4722	10	8
6	9/9	1600	1805	3	3	0	4722	4728	6	6
7	9/9	1805	1955	3	3	0	4728	4696	-32	-32
8	9/10	1000	1155	2	2	0	4776	4725	-51	-51
9	9/10	1155	1400	2	2	0	4725	4759	34	34
10	9/10	1400	1615	2	4	2	4759	4718	-41	-43
11	9/10	1615	1753	4	2	-2	4718	4708	-10	-8
12	9/10	1753	1956	2	3	1	4708	4769	61	60
13	9/11	1245	1445	2	2	0	4711	4710	-1	-1
14	9/11	1445	1643	2	2	0	4710	4722	12	12
15	9/11	1643	1838	2	4	2	4722	4756	34	32
Arithmetic Mean						1				-3
Confidence Interval						1				17
					Zero Drift	0.0		Calibration Drift		0.4

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TABLE 7-5. TWENTY-FOUR-HOUR ZERO AND CALIBRATION DRIFT DETERMINATION FOR INLET SO_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40, 0-5000 ppm RNAGE

Data Set No.	Date	Time Begin	Time End	Zero Rdg. Init. A	Zero Rdg. Fin. B	Zero Drift C=B-A	High-Range Rdg Init. D	High-Range Rdg Fin. E	Span Drift F=E-D	Calib. Drift G=F-C
1	9/6	0930	0930	1	2	1	4764	4758	-6	-7
2	9/7	1000	0930	2	2	0	4776	4772	-4	-4
3	9/8	0945	1005	2	-1	-3	4724	4684	-40	-37
4	9/9	1015	1000	-1	2	3	4758	4745	-13	-16
5	9/10	1015	1200	2	2	0	4776	4702	-74	-74
6	9/11	1245	1200	2	4	2	4711	4758	47	45
7	9/12	1200	1145	4	0	-4	4692	4734	42	46
Arithmetic Mean						0				-7
Confidence Interval						2				40
Zero Drift						0.0	Calibration Drift			0.9

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TABLE 7-6. TWO-HOUR ZERO AND CALIBRATION DRIFT DETERMINATION FOR OUTLET SO_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40, 0-500 ppm RANGE

Data Set No.	Date	Time Begin	Time End	Zero Rdg. Init. A	Zero Rdg. Fin. B	Zero Drift C=B-A	High-Range Rdg Init. D	High-Range Rdg Fin. E	Span Drift F=E-D	Calib. Drift G=F-C
1	9/8	0945	1145	0	0	0	427	427	0	0
2	9/8	1145	1350	0	0	0	427	427	0	0
3	9/9	1015	1210	0	0	0	428	428	0	0
4	9/9	1210	1408	0	0	0	428	427	-1	-1
5	9/9	1408	1600	0	0	0	427	428	1	1
6	9/9	1600	1805	0	0	0	428	429	1	1
7	9/9	1805	1955	0	0	0	429	427	-2	-2
8	9/10	1000	1155	0	0	0	431	433	2	2
9	9/10	1155	1400	0	0	0	433	426	-7	-7
10	9/10	1400	1615	0	0	0	426	427	1	1
11	9/10	1615	1753	0	0	0	427	430	3	3
12	9/10	1753	1956	0	0	0	430	426	-4	-4
13	9/11	1245	1445	0	0	0	428	428	0	0
14	9/11	1445	1643	0	0	0	428	427	-1	-1
15	9/11	1643	1838	0	0	0	427	438	11	11
Arithmetic Mean						0				0
Confidence Interval						0				2
Zero Drift						0.0	Calibration Drift			0.4

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TABLE 7-7. TWENTY-FOUR-HOUR ZERO AND CALIBRATION DRIFT DETERMINATION FOR OUTLET SO_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40, 0-500 ppm RANGE

Data Set No.	Date	Time Begin	Time End	Zero Rdg. Init. A	Zero Rdg. Fin. B	Zero Drift C=B-A	High-Range Rdg Init. D	High-Range Rdg Fin. E	Span Drift F=E-D	Calib. Drift G=F-C
1	9/6	0930	0930	0	0	0	428	413	-15	-15
2	9/7	1000	0930	0	0	0	400	397	-3	-3
3	9/8	0945	1005	0	0	0	427	427	0	0
4	9/9	1015	1000	0	0	0	428	431	3	3
5	9/10	1015	1200	0	0	0	431	426	-5	-5
6	9/11	1245	1200	0	2	2	428	419	-9	-11
7	9/12	1200	1145	2	0	-2	427	433	6	8
Arithmetic Mean						0				-3
Confidence Interval						1				7
					Zero Drift	0.2			Calibration Drift	2.0

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TABLE 7-8. TWO-HOUR ZERO AND CALIBRATION DRIFT DETERMINATION FOR INLET O_2 MONITOR, BECKMAN PARAMAGNETIC, MODEL 755, 0-25% RANGE

Data Set No.	Date	Time Begin	Time End	Zero Rdg. Init. A	Zero Rdg. Fin. B	Zero Drift C=B-A	High-Range Rdg Init. D	High-Range Rdg Fin. E	Span Drift F=E-D	Calib. Drift G=F-C
1	9/8	0945	1145	0.0	0.0	0.0	22.3	22.3	-0.1	-0.1
2	9/8	1145	1350	0.0	0.0	0.0		22.3	0.1	0.1
3	9/9	0952	1210	0.0	0.0	0.0	22.5	22.2	-0.3	-0.3
4	9/9	1210	1408	0.0	0.0	0.0	22.2	22.2	0.0	0.0
5	9/9	1408	1600	0.0	0.0	0.0	22.2	22.2	0.0	0.0
6	9/9	1600	1805	0.0	0.0	0.0	22.2	22.2	0.0	0.0
7	9/9	1805	1955	0.0	0.0	0.0	22.2	22.2	0.0	0.0
8	9/10	1000	1155	0.0	0.0	0.0	22.2	22.2	0.0	0.0
9	9/10	1155	1140	0.0	0.0	0.0	22.2	21.3	-0.9	-0.9
10	9/10	1400	1615	0.0	0.0	0.0	21.3	20.1	-1.2	-1.2
11	9/10	1615	1753	0.0	0.0	0.0	20.1	21.4	1.3	1.3
12	9/10	1753	1956	0.0	0.0	0.0	21.4	21.3	-0.1	-0.1
13	9/11	1245	1445	0.0	0.0	0.0	21.4	21.1	-0.3	-0.3
14	9/11	1445	1643	0.0	0.0	0.0	21.1	21.6	0.5	0.5
15	9/11	1643	1838	0.0	0.0	0.0	21.6	20.5	-1.1	-1.1
Arithmetic Mean						0.0				-0.1
Confidence Interval						0.0				0.3
Zero Drift						0.0	Calibration Drift			0.4

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TABLE 7-9. TWENTY-FOUR-HOUR ZERO AND CALIBRATION DRIFT DETERMINATION FOR INLET O_2 MONITOR, BECKMAN PARAMAGNETIC, MODEL 755, 0-25% RANGE

Data Set No.	Date	Time Begin	Time End	Zero Rdg. Init. A	Zero Rdg. Fin. B	Zero Drift C=B-A	High-Range Rdg Init. D	High-Range Rdg Fin. E	Span Drift F=E-D	Calib. Drift G=F-C
1	9/6	0930	0900	0.0	0.0	0.0	22.5	22.5	0.0	0.0
2	9/7	0930	0915	0.0	0.0	0.0	22.4	22.4	0.0	0.0
3	9/8	0945	0952	0.0	0.0	0.0	22.3	22.0	-0.3	-0.3
4	9/9	1005	1000	0.0	0.0	0.0	22.5	22.2	-0.3	-0.3
5	9/10	1000	1200	0.0	0.0	0.0	22.2	21.4	-0.8	-0.8
6	9/11	1245	1200	0.0	0.0	0.0	21.4	21.4	0.0	0.0
7	9/12	1200	1145	0.0	0.1	0.1	21.7	21.7	0.0	-0.1
Arithmetic Mean						0.0				-0.2
Confidence Interval						0.0				0.3
Zero Drift						0.0	Calibration Drift			0.5

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TABLE 7-10. TWO-HOUR ZERO AND CALIBRATION DRIFT DETERMINATION FOR OUTLET O_2 MONITOR, BECKMAN PARAMAGNETIC, MODEL 755, 0-25% RANGE

Data Set No.	Date	Time Begin	Time End	Zero Rdg. Init. A	Zero Rdg. Fin. B	Zero Drift C=B-A	High-Range Rdg Init. D	High-Range Rdg Fin. E	Span Drift F=E-D	Calib. Drift G=F-C
1	9/8	0945	1145	0.0	0.0	0.0	22.2	22.3	0.1	0.1
2	9/8	1145	1350	0.0	0.0	0.0	22.3	22.2	-0.1	-0.1
3	9/9	0952	1210	0.0	0.0	0.0	22.2	22.2	0.0	0.0
4	9/9	1210	1408	0.0	0.0	0.0	22.2	22.2	0.0	0.0
5	9/9	1408	1600	0.0	0.0	0.0	22.2	21.5	-0.7	-0.7
6	9/9	1600	1805	0.0	0.0	0.0	21.5	22.2	0.7	0.7
7	9/9	1805	1955	0.0	0.0	0.0	22.2	22.0	-0.2	-0.2
8	9/10	1000	1155	0.0	0.0	0.0	22.3	22.1	-0.2	-0.2
9	9/10	1155	1400	0.0	0.0	0.0	22.1	22.2	0.1	0.1
10	9/10	1400	1615	0.0	0.0	0.0	22.2	22.2	0.0	0.0
11	9/10	1615	1753	0.0	0.0	0.0	22.2	22.2	0.0	0.0
12	9/10	1753	1956	0.0	0.0	0.0	22.2	22.2	0.0	0.0
13	9/11	1245	1445	0.0	0.0	0.0	22.2	22.0	-0.2	-0.2
14	9/11	1445	1643	0.0	0.0	0.0	22.0	22.4	0.4	0.4
15	9/11	1643	1830	0.0	0.0	0.0	22.4	22.4	0.0	0.0
Arithmetic Mean						0.0				0.0
Confidence Interval						0.0				0.2
					Zero Drift	0.0			Calibration Drift	0.2

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TABLE 7-11. TWENTY-FOUR-HOUR ZERO AND CALIBRATION DRIFT DETERMINATION FOR OUTLET O_2 MONITOR, BECKMAN PARAMAGNETIC, MODEL 755, 0-25% RANGE

Data Set No.	Date	Time Begin	Time End	Zero Rdg. Init. A	Zero Rdg. Fin. B	Zero Drift C=B-A	High-Range Rdg Init. D	High-Range Rdg Fin. E	Span Drift F=E-D	Calib. Drift G=F-C
1	9/6	0930	0900	0.0	0.0	0.0	22.3	22.2	-0.1	0.0
2	9/7	0930	0915	0.0	0.0	0.0	22.2	22.2	0.0	0.0
3	9/8	0945	0952	0.0	0.0	0.0	22.2	22.2	0.0	0.0
4	9/9	1005	1000	0.0	0.0	0.0	22.2	22.1	-0.1	-0.1
5	9/10	1000	1200	0.0	0.0	0.0	22.3	22.2	-0.1	-0.1
6	9/11	1245	1200	0.0	0.0	0.0	22.2	22.2	0.0	0.0
7	9/12	1200	1145	0.0	0.1	0.1	22.0	21.5	-0.5	-0.6
Arithmetic Mean						0.0				-0.1
Confidence Interval						0.0				0.2
Zero Drift						0.0			Calibration Drift	0.3

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TABLE 7-12. CALIBRATION ERROR DETERMINATION FOR INLET SO_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40

Run No.	Calibration Gas Concentration ppm	Measurement System Reading ppm	Arithmetic Differences ppm	
	A	B	A-B	
			Mid	High
1	0	0		
2	2470	2467	3	
3	4783	4784		-1
4	2470	2486	-16	
5	0	1		
6	4783	4786		-3
7	2470	2478	-8	
8	4783	4781		2
9	0	2		
10	2470	2472	-2	
11	0	1		
12	4783	4728		55
13	0	1		
14	4783	4728		-3
15	2470	2468	2	
Arithmetic Mean		=	-4	10
Confidence Interval		=	10	31
Calibration Error, %		=	0.6	0.9

Calibration Data

Mid-level: C = 2470 ppm
High-level: D = 4783 ppm

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TABLE 7-13. CALIBRATION ERROR DETERMINATION FOR OUTLET SO_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40

Run No.	Calibration Gas Concentration ppm	Measurement System Reading ppm	Arithmetic Differences ppm	
	A	B	A-B	
			Mid	High
1	0	0		
2	308	308	0	
3	431	431		0
4	308	308	0	
5	0	0		
6	431	433		-2
7	308	309	-1	
8	431	433		-2
9	0	0		
10	308	309	-1	
11	0	0		
12	431	431		0
13	0	0		
14	431	431		0
15	308	308	0	
Arithmetic Mean		=	0	-1
Confidence Interval		=	1	1
Calibration Error, %		=	0.3	0.5

Calibration Data

Mid-level: C = 308 ppm
High-level: D = 431 ppm

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TABLE 7-14. CALIBRATION ERROR DETERMINATION FOR INLET O_2 MONITOR, THERMO-ELECTRON PULSED FLUORESCENT, MODEL 40, 0-5000 ppm RANGE

Run No.	Calibration Gas Concentration %	Measurement System Reading %	Arithmetic Differences %	
	A	B	A-B	
			Mid	High
1	0.0	0.0		
2	8.0	8.0	0.0	
3	20.9	21.1		-0.2
4	0.0	0.0		
5	20.9	21.0		-0.1
6	8.0	8.0	0.0	
7	20.9	20.9		0.0
8	0.0	0.0		
9	20.9	21.0		-0.1
10	8.0	7.9	0.1	
11	20.9	20.8		0.1
12	8.0	8.0	0.0	
13	0.0	0.0		
14	8.0	8.0	0.0	
15	0.0	0.0		
Arithmetic Mean		=	0.0	-0.1
Confidence Interval		=	0.1	0.1
Calibration Error, %		=	0.1	0.2

Calibration Data from Section 6.1

Mid-level: C = 8.0%
High-level: D = 20.9%

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TABLE 7-15. CALIBRATION ERROR DETERMINATION FOR OUTLET O_2 MONITOR, BECKMAN PARAMAGNETIC, MODEL 755, 0-25% RANGE

Run No.	Calibration Gas Concentration %	Measurement System Reading %	Arithmetic Differences %	
	A	B	A-B	
			Mid	High
1	0.0	0.0		
2	8.0	8.0	0.0	
3	20.9	20.4		0.5
4	0.0	0.0		
5	20.9	20.2		0.7
6	8.0	7.8	0.2	
7	20.9	20.5		0.4
8	0.0	0.0		
9	20.9	20.5		0.4
10	8.0	8.1	-0.1	
11	20.9	20.5		0.4
12	8.0	8.1	-0.1	
13	0.0	0.0		
14	8.0	8.0	0.0	
15	0.0	0.0		
Arithmetic Mean =			0.0	0.5
Confidence Interval =			0.2	0.2
Calibration Error, % =			0.2	0.7

Calibration Data

Mid-level: C = 8.0%
High-level: D = 20.9%

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TABLE 7-16. CALIBRATION GASES USED DURING TEST PROGRAM

Calibration gas	Concentration (ppm)	Period used
SO_2 in N_2	2,600	8/28 through 9/5
	2,530	9/6 through 9/15
	2,470	9/16 through 9/25
	4,783	9/26 through 9/30
SO_2 in N_2	308	8/28 through 8/30
	378	8/31 through 9/13
	308	9/14 through 9/30
O_2 in N_2	110,000	8/28 through 9/30

Data Acquisition System

The Data Acquisition System consisted of a Fluke Data Acquisition system, a dual pen Fisher 5000 Recordall recorder, and a Leeds and Northrop 6-channel multipoint recorder. A more in-depth description of the data-gathering system and how it was utilized in the comprehensive system is in Section 9. The Fluke Data Acquisition system was equipped to convert voltages into temperatures directly.

Temperature Sensors

Mounted parallel to the filter probes were 60-cm (24-in.) long chromel-alumel thermocouple probes. These thermocouple probes were hard wired into the Fluke Data Acquisition system using approximately 30-m (100-ft) of chromel-alumel thermocouple wire, allowing the flue gas temperatures at the inlet and outlet of the FGD system to be listed on the data acquisition system printout.

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SECTION 8

DESCRIPTION OF REFERENCE METHOD TESTING AND ANALYSIS

The Environmental Protection Agency reference methods of manual testing described below were conducted at the two filter probe locations. The data collected were used to validate the results derived from the continuous monitoring system.

Velocity traverses (using Environmental Protection Agency Methods 1 and 2 with a calibrated "S" type pitot tube, thermocouple-actuated potentiometer, and inclined manometer) were conducted at the two sampling locations along with the gas sampling for Methods 3, 5, and 6 (42 Federal Register 41754 August 18, 1977).

TESTING FOR SO_2

SO_2 concentrations were sampled according to Environmental Protection Agency Method 6 for 30 minutes at a sampling rate not greater than 1 L/min (0.035 cfm). The manual sampling probe was positioned not more than 3 cm from the extractive monitor probe. The sampling train consisted of a heat-traced glass-lined probe with glass wool in the tip, four impingers (of the size used in Method 5), an impinger umbilical connector, silica gel tube, diaphragm pump, rotameter for wet gas flow rate, and a dry gas flow meter. The impingers were set up in the Method 6 configuration. The first impinger contained 100 mL of 80 percent isopropanol, and the next two impingers each contained 100 mL of 3 percent hydrogen peroxide. The last impinger was empty. The first impinger had a glass wool plug inserted in the tap at the outlet arm to act as a mist eliminator. The impinger train was placed in an ice bath and leak checked before and after each run. At the end of the sampling run, the ice bath was removed, the isopropanol was discarded, and the hydrogen peroxide from the two impingers was transferred to a sample bottle. The three impingers were then rinsed three times with distilled deionized water and the rinses added to the same sample bottle. The peroxide solution was diluted to a known volume, and three aliquots were analyzed titrametrically by the barium percholorate/thorin indicator method.

TESTING FOR O_2

Manual Integrated Oxygen sampling was conducted according to Environmental Protection Agency Method 3 (42 Federal Register 41754 August 18, 1977). The flue gas was sampled simultaneously with Reference Methods 5 and 6 for particulate matter and SO_2 with the O_2 and CO_2 being determined by an Orsat analyzer.

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TESTING FOR PARTICULATE MATTER

The particle emission rate from the FGD system was determined by three isokinetic sampling runs performed at the baghouse outlet. Particulate matter testing was conducted according to Environmental Protection Agency Method 5 using a RAC Stacksampler sampling train. Components included in the train were:

- A buttonhook nozzle,
- A type 316 stainless steel heat-traced probe, pitot tube, and integrated bag sampling line (attached in required configuration),
- A 10-cm (4-in.) glass filter holder containing a pre-weighed AH-Gelman glass fiber filter,
- 4 impingers - the first two containing 200 ml of distilled deionized H_2O, the third empty, and the fourth, 200 grams of silica gel,
- An umbilical cord connecting impinger train to a rotary vane pump, and
- A dry-gas meter.

The reported particulate emissions (Table 8-1) include the particulate portion from the acetone wash of the front half of the sampling train and accumulations on the glass fiber filter.

TABLE 8-1. PARTICULATE EMISSIONS RESULTS

	Inlet Duct		
Test:			
Date:	6-2-80	6-2-80	6-3-80
Run No.	BI5-1	BI5-2	BI5-3
Time interval	1031-1222	1527-1730	0845-1032
Flue Gas:			
Temperature, ^{o}C (^{o}F)	179 (355)	184 (363)	184 (364)
Velocity, m/s (fps)	10.45 (34.27)	10.25 (33.63)	10.66 (34.98)
Diameter, m (in.)	2.286 x .914 (90 x 36)	2.286 x .914 (90 x 36)	2.286 x .914 (90 x 36)
Area, m^2 (ft^2)	2.09 (22.5)	2.09 (22.5)	2.09 (22.5)
Flow rate, m^3/s (acfm)	21.83 (46,260)	1,286 (45,400)	1,337 (47,220)
Flow rate, m^3/s (scfm)	13.73 (29,080)	800 (28,260)	831 (29,360)
Flow rate, m^3/s (dscfm)	12.65 (26,810)	736 (26,000)	767 (27,070)
Water vapor, % by vol.	7.76	7.96	7.80
Particulate Emission Data:			
Sampling time, min	96	96	96
Probe/nozzle catch, g (gr)	2.4632 (38.01)	0.6769 (10.45)	0.7353 (11.35)
Filter catch, g (gr)	8.6409 (133.35)	8.9077 (137.46)	13.1580 (203.06)
Total catch, g (gr)	11.1041 (171.36)	9.5846 (147.91)	13.8933 (214.40)
Sample volume, m^3 (dscf)	1.71 (41.46)	1.13 (40.01)	1.18 (41.51)
Concentration, g/m^3 (gr/dscf)	9.43 (4.12)	8.44 (3.69)	11.78 (5.15)
Mass rate, mg/yr (lb/hr)	429.5 (946.8)	373.0 (822.3)	542.0) (1,195.0)
Isokinetic sampling, %	106.3	105.8	105.4
Gas Analysis (% by vol., dry):			
Carbon dioxide (CO_2)	11.0	11.2	11.4
Oxygen (O_2)	8.0	7.4	6.9
Carbon monoxide (CO)	NIL	NIL	NIL
Nitrogen & inerts	81.0	81.4	81.7

(continued)

TABLE 8-1. "continued"

	Outlet Duct		
Test:			
Date:	6-2-80	6-2-80	6-3-80
Run no.	B05-1	B05-2	B05-3
Time interval	1020-1152	1530-1755	0845-1044
Flue Gas:			
Temperature, ^{o}C (^{o}F)	87 (189)	79 (175)	97 (207*)
Velocity, m/s (fps)	9.82 (32.21)	9.17 (30.06)	11.17 (36.64)
Diameter, m (in.)	1.68 (66)	1.68 (66)	1.68 (66)
Area, m^2 (ft^2)	2.21 (23.76)	2.21 (23.76)	2.21 (23.76)
Flow rate, m^3/s (acfm)	1,300 (45,920)	1,214 (42,850)	1,439 (50,810)
Flow rate, m^3/s (scfm)	1,035 (36,540)	987 (34,850)	1,115 (39,360)
Flow rate, m^3/s (dscfm)	894 (31,570)	857 (30,250)	985 (34,790)
Water vapor, % by vol.	13.6	13.2	11.6
Particulate Emission Data:			
Sampling time, min	72	72	72
Probe/nozzle catch, g (gr)	0.0413 (.637)	0.0179 (.276)	0.0607 (.937)
Filter catch, g (gr)	0.0062 (.096)	0.0042 (.065)	0.0169 (.261)
Total catch, g (gr)	0.0475 (.733)	0.0221 (.341)	0.0776 (1.197)
Sample volume, m^3 (dscf)	1.42 (50.24)	1.38 (48.81)	1.93 (68.26)
Concentration, m^3 (gr/dscf)	.0334 (0.0146)	.0159 (0.00697)	.0400 (0.0175)
Mass rate, mg/yr (lb/hr)	1.79 (3.95**)	.82 (1.81)	2.37 (5.22)
Isokinetic sampling, %	100.2	101.6	92.7
Gas Analysis (% by vol., dry):			
Carbon dioxide (CO_2)	10.6	10.2	10.6
Oxygen (O_2)	8.4	8.6	7.6
Carbon monoxide (CO)	NIL	NIL	NIL
Nitrogen & inerts	81.0	81.2	81.8

*Spray dryer down 1/3 of sampling period.
**Some soot blowing.

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SECTION 9

DESCRIPTION OF DATA GATHERING SYSTEM AND PROCEDURE

EMISSIONS DATA

Emissions data were transmitted from the analyzers to the Fluke Data Acquisition system where they were recorded as voltages. The Fluke Data Acquisition system was set up to scan the analyzers and temperature outputs every 15 minutes and was wired so as to indicate when the gas conditioner was in its blowback mode. Emissions data were also transmitted to strip chart recorders simultaneously as a backup source of data collection. Temperature data were transmitted from the remote temperature probes to the Fluke Data Acquisition system and recorded.

The preceding day's emissions data were taken from the Fluke Data Acquisition system daily and manually converted from voltages to concentrations. The respective day's zero and span were used to correct the data and to determine the calibration factor for the conversion. The converted and corrected emissions data and temperature data were then transferred to a data sheet that was divided into quarter-hour time increments and sent daily back to TRW. The data were reduced in the field so they could be used by the operator as an indication of potential or actual instrumentation problems.

PROCESS DATA

Process data sheets, supplied by the Celanese Fibers Company, were delivered to the site operator as they became available by the Chief Assistant to the Boiler House Manager. Process data included boiler operational parameters and coal analyses.

SITE MANAGER NOTES

Qualitative statements about general FGD system operation, FGD system malfunctions, engineering shortcomings, and modifications were substantiated by the highest personnel available in the plant chain of command. Priority of information verification was as follows: Boiler House Manager, first; Chief Assistant to the Boiler House Manager, second; Shift Foreman, third; and boiler operators, fourth.

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DATA TRANSFER, HANDLING, AND STORAGE

Emissions data were transcribed daily by the site manager from the paper output of the Fluke recorder to a formatted data sheet. A copy of this data sheet is shown in Figure 9-1. The site manager also converted the data from the millivolt outputs registered by the data logger to the proper units, either ^{0}F, percent, or ppm. Calibration drifts were included when converting the data. The site manager then combined these data sheets summarizing the emissions data with the process data sheets, photocopied the entire package, and mailed these copies to the lead project engineer at TRW's Research Triangle Park office. When this package arrived at TRW, it was given directly to a data analyst whose job was to enter the data in the digital computer. Because of the large number of entries associated with the emissions data, these formatted data sheets were sent by courier to a data entry firm where the data were keypunched onto cards. These cards were then sent by courier to the computer where they were read and loaded into memory. The relevant process data were loaded directly into the computer memory by the TRW data analyst using a remote terminal. The entire process from the time the data were collected at Celanese in Cumberland, Maryland, until they were stored in the computer in Research Triangle Park, North Carolina, took approximately five days.

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Although this system of data handling was not exceptionally fast, it did have a number of advantages. Conversion of the data into engineering units by the site manager kept him aware of FGD system's performance at all times. It also alerted him to problems in the continuous-monitoring or data-handling systems. The site manager could thus correlate daily between the FGD system's operating status, as reported by the system operators, and its SO_2 removal efficiency. This data-handling system also offered a high degree of redundancy in data storage. Data were stored in the computer memory, on punched cards, on formatted data sheets, and on the paper tape from the data logger. Thus, misplaced data could be retrieved from a number of sources. Finally, this system was less expensive to operate than a more automated system. It is well-suited to a job of short duration (30 days) where immediate data reduction is not essential.

QUALITY ASSURANCE

The quality of the data collected at Celanese was assured in the following ways.

- As mentioned above, TRW's site manager was given a part of the data reduction responsibilities so that he was always aware of the system's performance in actual engineering units rather than millivolt outputs from the data logger.

- The site manager was given a schedule of activities to be followed daily in order to assure that all important duties were performed. A copy of this schedule is shown in Table 9-1.

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CELANESE FGD EMISSIONS DATA									
	SCALE →								
DATE	TIME	TEMP 0. INLET	O_2 1. OUTLET	SO_2 2. OUTLET	O_2 3. INLET	SO_2 4. INLET	TEMP 5. OUTLET	TEMP 6. MIDPOINT	SO_2 7. MIDPOINT

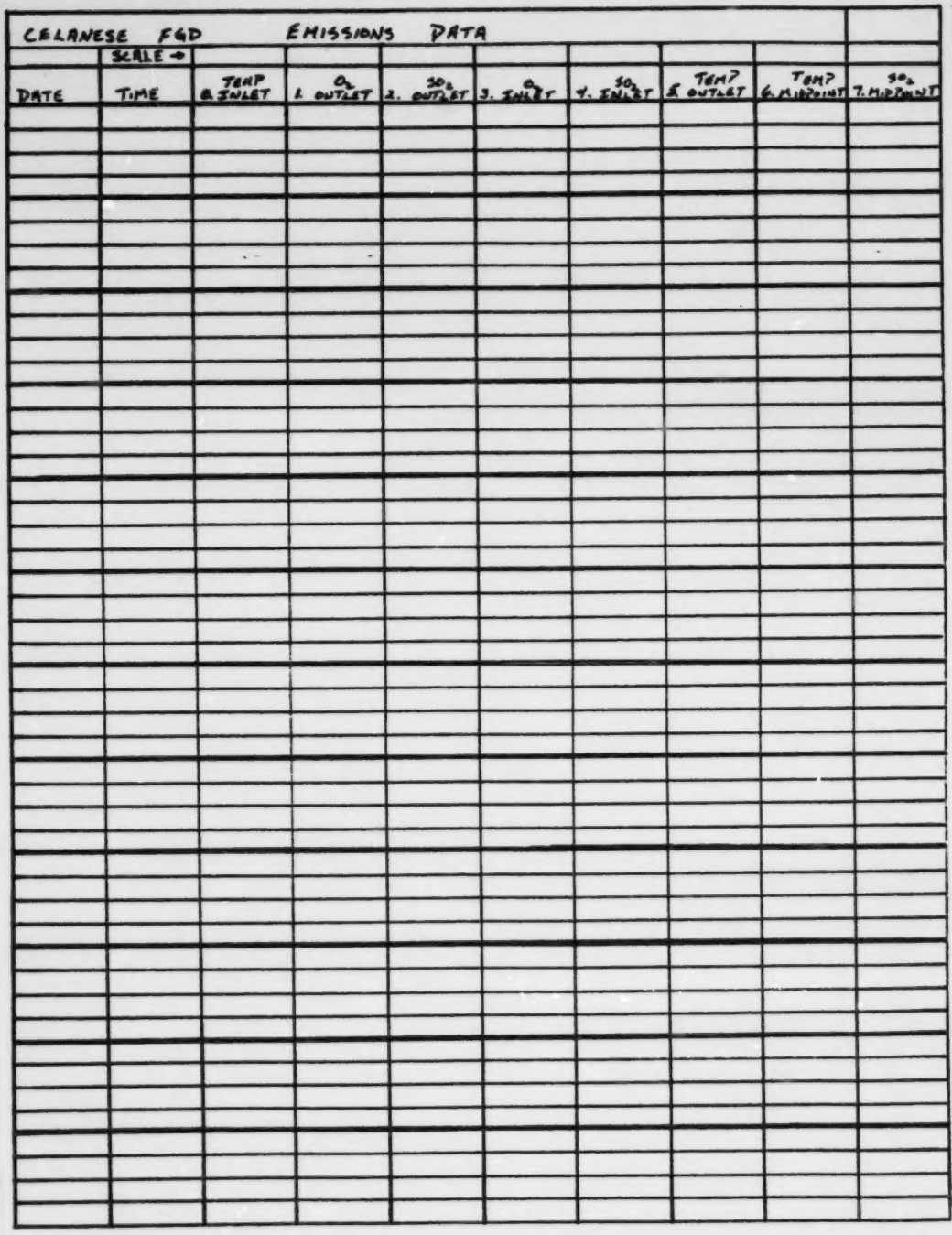

Figure 9-1. Sample emissions data sheet.

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TABLE 9-1. SCHEDULE OF DAILY ACTIVITIES FOR THE SITE MANAGER

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TIME	TASK
8:00 A.M.	*Check status of continuous monitors and data logger
	*Enter notes on system's condition & emissions in notebook
8:30	*Zero, span, and calibrate instruments
	*Enter notes on calibration drifts on proper sheets and in notebook
9:00	*See boiler operator (Bill Mason), discuss equipment operation
	*Get process data from previous day
	*Enter notes on boiler and FGD operation in notebook
9:30	*Call TRW: Steve Mulligan or Jim Kezerle (919-541-9100)
	*Discuss boiler status, monitoring system, calibration, etc.
10:00	*Reduce emissions data from previous day
	*Convert data to proper units and transcribe to data sheets
10:30	
11:00	
11:30	
12:00	
1:00 P.M.	*Finish data reduction
	*Prepare process and emissions data for mailing
1:30	*Call TRW with report on emissions data
	*Report one or two data points Include SO_2, O_2, temperatures at inlet & outlet
2:00	*Perform instrument & equipment maintenance
	-Check moisture purge from conditioners DAILY
2:30	-Check paper supply in data logger
	-Clean filters, thermocouples, and probes WEEKLY
3:00	-Check cal gas supply
	-Make final notebook entries
3:30	* -Check condition of data logger and instruments
4:00	

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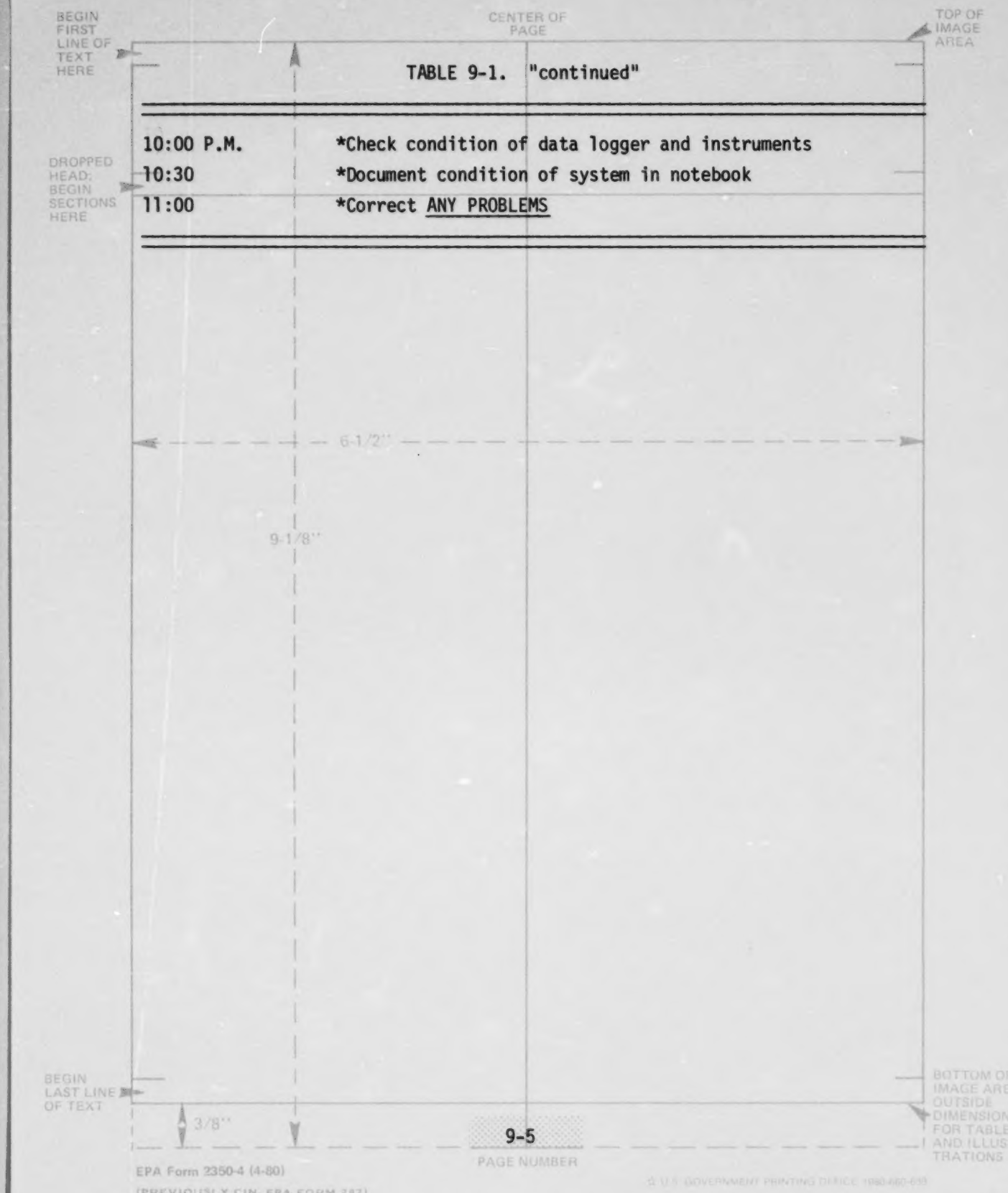

TABLE 9-1. "continued"

10:00 P.M.	*Check condition of data logger and instruments
10:30	*Document condition of system in notebook
11:00	*Correct ANY PROBLEMS

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- The site manager at Celanese conferred by telephone twice a day with TRW engineers at Research Triangle Park. During one of these calls, he reported all the outputs of the continuous monitoring system for two typical hours in the previous day. This procedure helped to assure the identification of problems with the data that might be missed by the site manager.

- All important telephone calls, conversations, and meetings were logged into notebooks issued to all responsible members of the project team. The site manager's notebook listed any information related to him by Rockwell International, Wheelabrator-Frye, or Celanese personnel. The status of the FGD system, boiler, and the continuous monitoring system was also entered into these notebooks.

- All notebooks issued on this program were checked periodically by TRW's quality assurance manager to be sure that all entries were dated and complete. These periodic inspections were unannounced.

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SECTION 10

DATA ANALYSIS

DESCRIPTION OF THE COMPUTER PROGRAM

The computer program used to analyze the data was coded in SUPER BASIC. It was designed to calculate time-averaged concentrations of flue gas constituents, flue gas flow rates, and boiler heat input values. It then used these values to calculate inlet and outlet SO_2 emissions and the percentage efficiency of SO_2 removal. A listing of the computer program is included in Appendix A.

The program was 291 lines long and used approximately 40 variables for label headings and naming arrays. Three files and two subroutines were used during execution. The two subroutines were used to input data in the proper format. The first, Subroutine Pro, was used to input and print process data. The second subroutine, Subroutine Ems, was used to input the emissions data.

The three files created were the emissions file, the process file, and the output file. The emissions data file contained 15-minute readings of the following parameters:

- SO_2 inlet
- SO_2 outlet
- O_2 inlet
- O_2 outlet
- temperature inlet
- temperature outlet

Readings of midpoint temperature, between the spray dryer and the baghouse, were taken and are included in the computer printouts. It was determined late in the program that these values are incorrect and do <u>not</u> represent the actual temperature of the flue gases at that point. Poor placement of the thermocouple probe was the cause of the problem. Measurements of the SO_2 concentration at this midpoint location were also intended to be taken. A breakdown in the analyzer intended to perform this function prevented the collection of these data. The computer printouts include

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column headings for these data but zeros were entered to indicate no data were collected. Four values per hour were recorded for each of the six parameters listed above. Thus, the data file contained 576 pieces of data for each day of testing. The process file contained hourly readings of the coal feed rate and steam flow rate. The output file was created before execution and was written on during execution. Hourly average of emissions, flue gas flow rates, heat input, and SO_2 removal efficiency percentages were written on the file. The equations used to calculate these outputs and sample calculations are included in Table 10-1.

Hourly averages of the emissions data were calculated using the sum of good readings divided by the count of good readings. The inlet, intermediate, and outlet emissions were calculated from those averages. From the averages of coal feed rate, the heat input and flue gas flow rate were calculated.

Daily averages of the SO_2 inlet and SO_2 outlet emissions and SO_2 removal efficiency percentages were calculated using only good hours. Good hours were simply defined as hours in which at least two valid non-zero data points had been collected. Incorrect data due to instrument malfunction was removed from the data base manually and not by the computer.

DESCRIPTION OF THE DATA INPUT TECHNIQUES

Data values for each day of testing were entered into the computer from two different sources. Emissions data were read along with the appropriate date from punched cards directly into file in the computer's memory. Process data were entered from a time-sharing terminal. Both files were dated, so they could be correlated and identified, and were kept in permanent storage. Files were retrieved for actual execution.

The test data were entered into the program at the beginning of execution. The value of the fuel heating value and the F-factor of bituminous coal remained constant for the duration of the test.

TYPICAL OUTPUT DESCRIPTION

The title and the date of the program were printed at the beginning of each output. The process data file containing the time of day, coal rate, steam rate, coal type, and upset condition was formatted and printed next. The formatted output printed the date, time, and the corresponding 15-minute reading of the emissions data. After four readings were printed, their average and the code "good hour" or "bad hour" was printed based on whether two non-zero data points were available. After 24 hours of emissions data were printed, the time, hourly averages (using only "good" hours) of heat input, flue gas flow rate, the three emissions, the efficiency percentages, and again the code "good hour" or "bad hour" (see next section) were printed. At the end of the program the label "good day" or "bad day" was printed based on whether 18 or fewer good hours of data had been collected.

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TABLE 10-1. EQUATIONS AND SAMPLE CALCULATIONS

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1. Heat Input = coal feedrate x coal heat content

   Btu/hr = lb/hr x Btu/lb

Computer Code:

U (I) = G (I) *T

U (I) = Hourly value of heat input
G (I) = Hourly value of coal feedrate
T = Heat content of coal

Sample: August 28, 1980; 0100 hours

Heat input = 9880 x 12500
= 12.4 x 10^7 Btu/hr

2. Flue gas flowrate = F factor x heat input x $\frac{20.9}{20.9 - \text{excess } O_2}$

   dscf/hr = dcsf/10^6 Btu x 10^6 Btu/hr

Computer Code:

V (I) = (K1 * (U (I) * (20.9/(20.9 - A4(I)))))/10^6

V (I) = Hourly value of flue gas flowrate
K1 = F = factor for bituminous coal
= 9820 dscf/10^6 Btu
U (I) = Hourly value of heat input
A4 (I) = Hourly value of excess oxygen in the inlet flue gas

Sample: August 28, 1980; 0100 hours

Flue gas flowrate = $\frac{9820}{10^6}$ x 12.4 x 10^7 x $\frac{20.9}{20.9 - 9.4}$

= 22.4 x 10^5 dscf/hr

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TABLE 10-1. "continued"

3. SO_2 Emissions (Inlet)* = SO_2 conversion factor x SO_2 concentration (inlet)

$$\text{lb/10}^6\text{ Btu} = \frac{\text{lb}}{\text{scf}}\text{/ppm} \times \text{ppm} \times \text{F - factor} \times \frac{20.9}{20.9 - \text{excess } O_2}$$

$$\text{dscf/10}^6\text{ Btu}$$

Computer Code:

$$R(I) = 1.66 \times 10^{-7} * A1(I) * K1 * \frac{20.9}{20.9 - A4(I)}$$

R (I) = Hourly value of SO_2 emissions

A1 (I) = Hourly average value of SO_2 concentration (inlet)

K1 = F - factor for bituminous coal

A4 (I) = Hourly average value of excess oxygen in the inlet flue gas

Sample: August 28, 1980; 0100 hours

$$SO_2 \text{ emissions (inlet)} = 1.66 \times 10^{-7} \times 960.0 \times 9820 \times \frac{20.9}{20.9 - 9.4}$$

$$= 2.84 \text{ lb/10}^6 \text{ Btu}$$

*The equation for SO_2 emissions (outlet) is analagous to the one for the inlet.

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DEFINITION AND HANDLING OF BAD DATA

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Bad emissions data as identified and flagged by TRW's site manager were entered as zeros in their respective 15-minute readings. Bad data included periods of FGD system upset and periods when the continuous monitors were not functioning. Three or more zeroed 15-minute readings produced a "bad hour." Otherwise, the hour was coded "good hour." A "bad day" of data was determined when more than six hours of data were bad. Otherwise, the day was coded "good day."

Abnormal emissions data due to poor operation of the FGD system were identified manually by TRW engineers after referring to the site manager's notebook. These periods were deleted from the 30-day average removal efficiency.

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SECTION 11

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2. Shigehara, R. T., R. M. Neulicht, W. S. Smith, and J. W. Peeler. Summary of F-factor Methods for Determining Emissions from Combustion Sources. Source Evaluation Society Newsletter, Volume 1, No. 5. November 1976.

3. New Stationary Sources Performance Standards; Electric Utility Steam Generating Units. Federal Register, Volume 44, No. 113. June 11, 1979. pp. 33580-33624.

4. Standards of Performance for New Stationary Sources; Continuous Monitoring Performance Specifications. Federal Register, Volume 44, No. 197. October 10, 1979. pp. 58601-58636.

5. Standards for New Stationary Sources; Revision to Reference Method 1-8. Federal Register, Volume 42, No. 160. August 18, 1977. p. 41754.

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LNH
00100 REMARK
00110 REMARK
00120 REMARK
00130 REMARK          THIS PROGRAM IS TO GATHER RAW PROCESS AND EMISSIONS DATA
00140 REMARK          FROM THE CELANESE FIBER COMPANY DRY FGD SYSTEM AND COMPUTE
00150 REMARK          SO2 EMISSIONS AND REMOVAL EFFICIENCY
00160 REMARK          WRITTEN BY: PATRICIA R. JONES
00170 REMARK          TRW ENVIRONMENTAL ENGINEERING DIVISION
00180 REMARK
00190 REMARK
00200 REMARK
00210 REMARK          VARIABLES FOR IDENTIFYING AND LOADING DATA FILES TO BE
00220 REMARK          EXECUTED
00230 REMARK
00240 C$="PROGRAM CELDA"
00250 PRINT IN FORM "54B AAAAAAAAAAAA/////":C$
00260 C1$="CELANESE FGD SYSTEM"
00270 C2$="CUMBERLAND,MARYLAND"
00280 PRINT IN FORM "51B AAAAAAAAAAAAAAAAAA/":C1$
00290 PRINT IN FORM "51B AAAAAAAAAXAAAAAAAA//":C2$
00300 PRINT "ENTER DATE OF TEST"
00310 INPUT C3$
00320 PRIN, IN FORM "54B AAAAADDXDDDD ///":C3$
00330 STRING A$(24,4),B$(24,4)
00340 PRINT "ENTER FILE NAME"
00350 INPUT I$
00360 PRINT "ENTER OUTPUT FILE NAME"
00370 INPUT O$
00380 PRINT "ENTER PROCESS DATA FILE NAME"
00390 INPUT J$
00400 PRINT "ENTER HEAT INPUT CONTENT"
00410 INPUT T
00420 REMARK
00430 REMARK          VARIABLES USED FOR THE PRINTING OF COLUMN HEADINGS
00440 REMARK
00450 V3$="BTU/HR"
00460 V4$="DSCF/HR"
00470 B1$="LB/HR"
00480 B2$="PSIG"
00490 B3$="SCFM"
00500 B4$="%"
00510 V1$="PPM"
00520 V2$="F"
00530 STRING Y,Z
00540 W1$="HEAT INPUT"
00550 W2$="FLUE GAS"
00560 W3$="FLOWRATE"
00570 W4$="EMISSIONS"
00580 W5$="EFFICIENCY"
00590 X5$="COAL RATE"
00600 Y="STM RATE"
00610 Z="STM TEMP"
00620 X$="STM PRES"
00630 Y8$="COAL TYPE"
00640 Y9$="UPSET CON"
00650 Z1$="DATE"
00660 X6$="TIME"
00670 X7$="CO"
00680 X8$="SO2 INLET"
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00690 X9$="02%"
00700 Y1$="TEMP"
00710 Y2$="SO2 INTER"
00720 Y5$="AVERAGE"
00730 Y3$="SO2 OUTLET"
00740 W6$="LOG"
00750 W7$="#/MMBTU"
00760 W8$="PERCENT"
00770 VAR=ZERO
00780 GET O$
00790 OPEN O$,OUTPUT,7
00800 K1=9820
00810 REMARK
00820 REMARK          ROUTINE FOR PRINTING HEADINGS FOR THE PROCESS DATA
00830 REMARK
00840 PRINT IN FORM "3B AAAA 3B":X6$
00850 PRINT IN FORM "4(AAAAAAAAAA 1B)/":X5$,Y,Y8$,Y9$
00860 PRINT IN FORM "12B AAXAA 5B AAXAA  ///":B1$,B1$
00870 GET J$
00880 OPEN J$,INPUT,2
00890 DIM G(24),H(24),I(24),J(24),K(24),L(24),M(24),N(24),O(24),P(24),P$(24)
00900 DIM Q$(24)
00910 GOTO 01120
00920 REMARK
00930 REMARK          SUBROUTINE TO INPUT PROCESS DATA
00940 REMARK          ARRAY G(24)   IS THE COAL FEEDRATE
00950 REMARK          ARRAY H(24)   IS THE STEAM FLOWRATE
00960 REMARK          ARRAY K(24)   IS THE TIME
00970 REMARK          ARRAY P$(24)  IS THE CODE FOR THE COAL TYPE
00980 REMARK          ARRAY Q$(24)  IS THE UPSET CONDITION
00990 REMARK
01000 REMARK          SUBROUTINE PRO
01010 REMARK
01020 FOR I=1 TO 24
01030 INPUT FROM 2:X,K(I),G(I),H(I),P$(I),Q$(I)
01040 REMARK
01050 REMARK          ROUTINE FOR PRINTING PROCESS DATA
01060 REMARK
01070 PRINT IN FORM "3B DDDD 4B":K(I)
01080 PRINT IN FORM "1B DDDDD 5B DDDDD 7B DDDDD 6B DDDDD":G(I),H(I),
01090 PRINT IN FORM "AAAAA 6B AAAAA//":P$(I),Q$(I)
01100 NEXT I
01110 RETURN
01120 GET I$
01130 OPEN I$,INPUT,3
01140 ONENDFILE(3) GOTO 01380
01150 DIM A(24,4),B(24,4),C(24,4),D(24,4),E(24,4)
01160 DIM F(24,4),F1(24,4),G1(24,4),F2(24,4)
01170 GOTO 01390
01180 REMARK
01190 REMARK          ARRAY A(24,4)  IS THE SO2 INLET
01200 REMARK          ARRAY A$(24,4) IS THE TIME IN 15 MINUTE INTERVALS
01210 REMARK          ARRAY B(24,4)  IS THE SO2 MIDPOINT
01220 REMARK          ARRAY B$(24,4) IS THE DATE
01230 REMARK          ARRAY C(24,4)  IS THE SO2 OUTLET
01240 REMARK          ARRAY D(24,4)  IS THE O2 INLET
01250 REMARK          ARRAY E(24,4)  IS THE O2 OUTLET
01260 REMARK          ARRAY F(24,4)  IS THE SO2 INLET TEMPERATURE
01270 REMARK          ARRAY F1(24,4) IS THE SO2 MIDPOINT TEMPERATURE
01280 REMARK          ARRAY G1(24,4) IS THE SO2 OUTLET TEMPERATURE
```

```
01290 REMARK
01300 REMARK          SUBROUTINE TO INPUT EMISSIONS DATA
01310 REMARK          SUBROUTINE EMS
01320 REMARK
01330 FOR I=1 TO 24
01340 FOR J=1 TO 4
01350 INPUT FROM 3 IN FORM "XXXXX XXXXX 3%.% 2%.% 3%.% 2%.% 4%.% 3%.% 3%.% 3%.% /":B$(I,J),A$(I,J),F(I,J),E(I,J),C(I,J),D(I,J),A(I,J
),G1(I,J),F1(I,J),B(I,J)
01360 NEXT J
01370 NEXT I
01380 RETURN
01390 DIM Q(24,4),R(24),S(24),W(24),U(24),V(24)
01400 DIM S1(24),S2(24),S3(24),S4(24),S5(24),S6(24),S7(24),S8(24)
01410 DIM A1(24),A2(24),A3(24),A4(24),A5(24),A6(24),A7(24),A8(24)
01420 GOSUB 01000
01430 GOSUB 01310
01440 REMARK
01450 REMARK          S1 THRU S8,ARE THE HOURLY SUMS OF EACH EMISSIONS DATA
01460 REMARK
01470 FOR I=1 TO 24
01480 S1,S2,S3,S4,S5,S6,S7,S8,N,P=0
01490 FOR J=1 TO 4
01500 IF A(I,J)=0 THEN 01540
01510 S8=S8+A(I,J)
01520 Q(I,J)=1
01530 GOTO 01560
01540 Q(I,J)=0
01550 N=N+1
01560 P=P+1
01570 S1=S1+B(I,J)
01580 S2=S2+C(I,J)
01590 S3=S3+D(I,J)
01600 S4=S4+E(I,J)
01610 S5=S5+F(I,J)
01620 S6=S6+F1(I,J)
01630 S7=S7+G1(I,J)
01640 NEXT J
01650 T1=P-N
01660 IF P-N<>1 THEN 01690
01670 Q$(I)="GOOD HOUR"
01680 GOTO 01850
01690 Q$(I)="BAD HOUR"
01700 REMARK
01710 REMARK          H1 IS THE COUNT OF THE GOOD HOURS OF DATA
01720 REMARK
01730 H1=H1+1
01740 GOTO 02350
01750 REMARK
01760 REMARK          ALL OF THE HOURLY AVERAGES ARE CALCULATED USING THE NUMBER OF GOOD
01770 REMARK          15 MINUTE READINGS (T1).
01780 REMARK          A1(24) IS THE HOURLY AVERAGE OF THE SO2 INLET
01790 REMARK          A2(24) IS THE HOURLY AVERAGE OF THE SO2 MIDPOINT
01800 REMARK          A3(24) IS THE HOURLY AVERAGE OF THE SO2 OUTLET
01810 REMARK          A4(24) IS THE HOURLY AVERAGE OF THE O2 INLET
01820 REMARK          A5(24) IS THE HOURLY AVERAGE OF THE O2 OUTLET
01830 REMARK          A6(24) IS THE HOURLY AVERAGE OF SO2 INLET TEMPERATURE
01840 REMARK          A7(24) IS THE HOURLY AVERAGE OF THE SO2 MIDPOINT TEMPERATURE
01850 REMARK          A8(24) IS THE HOURLY AVERAGE OF THE SO2 OUTLET TEMPERATURE
```

```
01860 REMARK
01870 A1(I)=S8/T1
01880 A2(I)=S1/T1
01890 A3(I)=S2/T1
01900 A4(I)=S3/T1
01910 A5(I)=S4/T1
01920 A6(I)=S5/T1
01930 A7(I)=S6/T1
01940 A8(I)=S7/T1
01950 REMARK
01960 REMARK          U(I) AND V(I) ARE THE VALUES OF THE HEAT INPUT AND
01970 REMARK          AND THE FLUE GAS FLOWRATE OF EACH HOURLY AVERAGE OF SO2
01980 REMARK
01990 U(I)=G(I)*T
02000 V(I)=(K1*U(I)*(20.9/(20.9-A4(I))))/1000000
02010 REMARK
02020 REMARK          R(I) IS THE VALUE OF THE EMISSIONS OF THE HOURLY AVERAGE
02030 REMARK          OF THE SO2 INLET, S(I) IS THE VALUE OF THE EMISSIONS
02040 REMARK          OF THE HOURLY AVERAGE OF THE SO2 INTERMEDIATE,W(I) IS THE
02050 REMARK          VALUE OF THE EMISSIONS OF THE HOURLY AVERAGE OF THE SO2 OUTLET
02060 REMARK
02070 LET E = 1.66E-07*A1(I)
02080 E1 = E*V(I)
02090 R(I)=E*K1*(20.9/(20.9-A4(I)))
02100 E2=1.66E-07*A2(I)
02110 E3=E2*V(I)
02120 S(I)=E2*K1*(20.9/(20.9-A5(I)))
02130 E4=1.66E-07*A3(I)
02140 E5=E4*V(I)
02150 W(I)=E4*K1*(20.9/(20.9-A5(I)))
02160 REMARK
02170 REMARK          R2 IS THE SUM OF THE SO2 INLET EMISSIONS
02180 REMARK          R3 IS THE SUM OF THE SO2 OUTLET EMISSIONS
02190 REMARK
02200 R2=R2+R(I)
02210 R3=R3+W(I)
02220 REMARK
02230 REMARK          J(I) IS THE VALUE OF THE EFFICIENCY OF THE HOURLY
02240 REMARK          AVERAGE OF THE SO2 INLET, L(I) IS THE VALUE OF THE
02250 REMARK          EFFICIENCY OF THE HOURLY AVERAGE OF THE SO2 OUTLET
02260 REMARK
02270 IF A1(I)=0 THEN 02440
02280 J(I)=((R(I)-S(I))/R(I))*100
02290 L(I)=((R(I)-W(I))/R(I))*100
02300 REMARK
02310 REMARK          L2 IS THE SUM OF THE SO2 OUTLET
02320 REMARK
02330 L2=L2+L(I)
02340 GOTO 02450
02350 IF T1=0 THEN T1=4
02360 A1(I)=S8/T1
02370 A2(I)=S1/T1
02380 A3(I)=S2/T1
02390 A4(I)=S3/T1
02400 A5(I)=S4/T1
02410 A6(I)=S5/T1
02420 A7(I)=S6/T1
02430 A8(I)=S7/T1
02440 J(I),L(I)=0
02450 NEXT I
```

```
02460 PRINT IN FORM "3B AAAA 6B AAAA 2B AA 7B AADAAAAAA 2B ADX 2B AAAA 7B AADAAAAAA 2B AAAA 7B AADAAAAAAA 2B ADX 2B AAAA/":Z1$,X6$,X
7$,X8$,X9$,Y1$,Y2$,Y1$,Y3$,X9$,Y1$
02470 REMARK
02480 REMARK          ROUTINE FOR PRINTING THE HEADINGS OF THE EMISSIONS DATA, THE FIFTEEN MINUTE READINGS OF
02490 REMARK          THE EMISSIONS AND THEIR HOURLY AVERAGES
02500 REMARK
02510 PRINT IN FORM "31B AAA 11B A 12B AAA 7B A 12B AAA 11B A/":V1$,V2$,V1$,V2$,V1$,V2$
02520 FOR I = 1TO 24
02530 FOR J = 1 TO 4
02540 PRINT IN FORM "2B XXXXX 6B XXXXX 1B DD 8B DDDD.D 3B DD.D 2B DDD.D 7B DDDD.D 4B DDD.D 8B DDDD.D 4B DD.D 2B DDD.D/":B$(I,J),A$(I
,J) ,Q(I,J),A(I,J),D(I,J),F(I,J),B(I,J),F1(I,J),C(I,J),E(I,J),G1(I,J)
02550 NEXT J
02560 PRINT IN FORM "20B AAAAAAA 2B DDDD.D 3B DD.D 2B DDD.D 7B DDDD.D 4B DDD.D 8B DDDD.D 4B DD.D 2B DDD.D 2B AAAAAAAAA//":Y5$,A1(I),
A4(I),A6(I),A2(I),A7(I),A3(I),A5(I),A8(I),Q$(I)
02570 NEXT I
02580 REMARK
02590 REMARK          ROUTINE TO PRINT THE HOURLY EMISSIONS, HEAT INPUT,
02600 REMARK          FLUE GAS FLOWRATE AND REMOVAL EFFICIENCY
02610 REMARK
02620 PRINT IN FORM "AAAA 2B AAAAAAAAAA 3B AAAAAAAA 3B AADAAAAAA 3B AADAAAAAA 3B AADAAAAAAA 3B AADAAAAAA 3B AADAAAAAAA/":X6$,W1$,W2$
,X8$,Y2$,Y3$,Y2$,Y3$
02630 PRINT IN FORM "7B AAAXAA 6B AAAAAAAA 3B AAAAAAAAA 3BAAAAAAAAA 3B AAAAAAAAA 4B AAAAAAAAAA 2B AAAAAAAAAA/":V3$,W3$,W4$,W4$,W4$,W
5$,W5$
02640 PRINT IN FORM "20B AAAAXAA 4B XXAAAAA 5B XXAAAAA 5B XXAAAAA 6B AAAAAA 6B AAAAAA//":V4$,W7$,W7$,W7$,W8$,W8$
02650 FOR I = 1 TO 24
02660 PRINT IN FORM "XXXXX 3B DD.DESDD 4B DD.DESDD 4B DD.DESDD 4B DD.DESDD 4B DD.DESDD 6B DDD 9B DD.D 6B AAAAAAAA/":A$(I,J),U(I),V(
I),R(I),S(I),W(I),J(I),L(I),Q$(I)
02670 PRINT ON 7 IN FORM"7(DD.DESDD 3B)/":U(I),V(I),R(I),S(I),W(I),J(I),L(I)
02680 NEXT I
02690 REMARK
02700 REMARK          L3 IS THE DAILY AVERAGE OF THE SO2 OUTLET EFFICIENCY, USING THE
02710 REMARK          THE COUNT OF THE GOOD HOURS OF DATA
02720 REMARK          R4 IS THE DAILY AVERAGE OF THE SO2 INLET EMISSIONS
02730 REMARK          R5 IS THE DAILY AVERAGE OF THE SO2 OUTLET EMISSIONS
02740 REMARK
02750 L3=L2/(24-H1)
02760 R4=R2/(24-H1)
02770 R5=R3/(24-H1)
02780 REMARK
02790 REMARK          PRINT OUT OF DAILY AVERAGE EMISSIONS AND REMOVAL
02800 REMARK          EFFICIENCY
02810 REMARK
02820 PRINT IN FORM "20B AAAAAAA 5B DD.DESDD 16B DD.DESDD 18B DD.D//":Y5$,R4,R5,L3
02830 REMARK
02840 REMARK          STATEMENT TO CHECK FOR AT LEAST EIGHTEEN HOURS OF GOOD DATA
02850 REMARK
02860 IF 24-H1<6 THEN 02890
02870 N$="GOOD DAY"
02880 GOTO 02900
02890 N$="BAD DAY"
02900 PRINT N$
02910 REPLACE O$
02920 CLOSE ALL
02930 END
*RDY*
```

BEGIN LAST LINE OF TEXT
DROPPED HEAD; BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 287)
PAGE NUMBER
A-6
CENTER OF PAGE
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA

RNH,M=10000

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
 ? "AUG 28,1980"

AUG 28,1980

ENTER FILE NAME
 ? IN8280
ENTER OUTPUT FILE NAME
 ? OUT8280
ENTER PROCESS DATA FILE NAME
 ? P8280
ENTER HEAT INPUT CONTENT
 ? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	09880	00000	BT	NO
0200	09500	00000	BT	NO
0300	09500	00000	BT	NO
0400	09310	00000	BT	NO
0500	09880	00000	BT	NO
0600	10070	00000	BT	NO
0700	09310	00000	BT	NO
0800	09500	00000	BT	NO
0900	09220	00000	BT	NO
1000	09780	00000	BT	NO
1100	09596	00000	BT	NO
1200	08856	00000	BT	NO

1300	09590	00000	BT	NO
1400	09960	00000	BT	NO
1500	09410	00000	BT	NO
1600	08300	00000	BT	NO
1700	09220	00000	BT	NO
1800	09780	00000	BT	NO
1900	09780	00000	BT	NO
2000	08670	00000	BT	NO
2100	08300	00000	BT	NO
2200	09220	00000	BT	NO
2300	09590	00000	BT	NO
2400	09220	00000	BT	NO

DATE	TIME	CO		SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
08/28	00:06	01		1027.6	09.2	338.9	0000.0	166.7	0652.2	09.6	176.7	
08/28	00:21	01		0892.3	09.6	339.1	0000.0	168.2	0589.9	09.6	177.4	
08/28	00:36	00		0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/28	00:51	00		0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
			AVERAGE	0960.0	09.4	339.0	0000.0	167.5	0621.1	09.6	177.1	GOOD HOUR
08/28	01:06	01		0903.6	09.2	340.5	0000.0	167.9	0616.0	09.5	178.6	
08/28	01:21	01		0907.6	09.4	340.0	0000.0	168.0	0676.4	09.4	177.9	
08/28	01:36	01		0754.2	10.3	338.9	0000.0	167.2	0516.5	10.4	177.5	
08/28	01:51	01		0793.5	09.9	339.5	0000.0	165.6	0506.0	10.3	176.8	
			AVERAGE	0839.7	09.7	339.7	0000.0	167.2	0578.7	09.9	177.7	GOOD HOUR
08/28	02:06	01		0859.5	09.1	339.9	0000.0	166.3	0562.7	09.7	177.3	
08/28	02:21	01		1035.7	08.9	339.8	0000.0	166.9	0688.7	09.2	177.4	
08/28	02:36	01		1147.0	08.9	339.1	0000.0	167.0	0777.9	09.1	177.7	
08/28	02:51	01		1238.5	08.8	339.6	0000.0	194.1	0911.7	08.9	200.3	
			AVERAGE	1070.2	08.9	339.6	0000.0	173.6	0735.3	09.2	183.2	GOOD HOUR
08/28	03:06	00		0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/28	03:21	01		1301.1	09.2	335.7	0000.0	166.4	0916.0	09.3	182.2	
08/28	03:36	01		1370.3	08.9	336.8	0000.0	165.6	0936.2	09.3	181.4	
08/28	03:51	01		1395.1	08.7	337.7	0000.0	164.7	0977.0	09.1	179.7	
			AVERAGE	1355.5	08.9	336.7	0000.0	165.6	0943.1	09.2	181.1	GOOD HOUR

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN EPA FORM 257)
PAGE NUMBER
A-8
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

08/28	04:06	01	1353.0	08.5	338.5	0000.0	164.2	1002.8	08.8	180.5		
08/28	04:21	01	1396.5	08.4	338.4	0000.0	161.6	0954.7	09.1	179.6		
08/28	04:36	01	1362.5	08.4	338.7	0000.0	161.1	0961.0	09.0	179.2		
08/28	04:51	01	1340.5	09.0	339.5	0000.0	161.7	0955.6	09.4	178.7		
		AVERAGE	1363.1	08.6	338.8	0000.0	162.2	0968.5	09.1	179.5	GOOD	HOUR
08/28	05:06	01	1212.4	09.5	342.1	0000.0	162.0	1002.4	09.8	178.4		
08/28	05:21	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/28	05:36	01	1135.7	09.5	339.3	0000.0	162.5	0847.8	09.6	177.5		
08/28	05:51	01	1197.0	09.4	338.8	0000.0	163.9	0871.5	09.6	178.3		
		AVERAGE	1181.7	09.5	340.1	0000.0	162.8	0907.2	09.7	178.1	GOOD	HOUR
08/28	06:06	01	1226.4	09.5	338.5	0000.0	163.9	0909.6	09.5	177.8		
08/28	06:21	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/28	06:36	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/28	06:51	01	1414.3	08.4	340.7	0000.0	164.6	1002.0	08.6	179.7		
		AVERAGE	1320.3	09.0	339.6	0000.0	164.3	0955.8	09.1	178.8	GOOD	HOUR
08/28	07:06	01	1363.1	08.5	340.6	0000.0	165.3	1001.8	08.8	180.2		
08/28	07:21	01	1315.8	08.8	340.7	0000.0	166.6	1001.7	09.1	180.2		
08/28	07:36	01	1265.0	08.9	340.7	0000.0	163.5	1001.7	08.9	180.5		
08/28	07:51	01	1246.4	09.2	340.5	0000.0	162.7	1001.6	09.3	180.0		
		AVERAGE	1297.6	08.9	340.6	0000.0	164.5	1001.7	09.0	180.2	GOOD	HOUR
08/28	08:06	01	1203.7	09.2	342.7	0000.0	161.0	1127.3	09.3	178.1		
08/28	08:21	01	1191.7	09.2	346.5	0000.0	163.5	1104.1	09.4	181.6		
08/28	08:36	01	1325.0	08.3	348.7	0000.0	216.2	1321.3	08.7	210.5		
08/28	08:51	01	1466.0	07.7	349.5	0000.0	185.6	1371.9	08.4	213.6		
		AVERAGE	1296.6	08.6	346.9	0000.0	181.6	1231.2	09.0	196.0	GOOD	HOUR
08/28	09:06	01	1330.3	08.7	350.4	0000.0	176.2	1274.8	09.2	198.5		
08/28	09:21	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/28	09:36	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/28	09:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
		AVERAGE	1330.3	08.7	350.4	0000.0	176.2	1274.8	09.2	198.5	BAD	HOUR
08/28	10:06	01	1257.0	09.4	346.1	0000.0	163.9	0949.0	10.1	184.9		
08/28	10:21	01	1244.4	09.0	344.5	0000.0	172.4	0874.7	11.0	188.2		
08/28	10:32	01	1189.0	09.2	344.5	0000.0	171.1	0832.0	09.6	187.5		
08/28	10:47	01	1061.0	09.5	344.5	0000.0	170.5	0743.5	09.9	185.9		
		AVERAGE	1187.9	09.3	344.9	0000.0	169.5	0849.8	10.1	186.6	GOOD	HOUR
08/28	11:02	01	1139.7	08.8	344.8	0000.0	170.9	0796.7	09.2	186.6		
08/28	11:17	01	1151.7	08.8	344.1	0000.0	171.7	0805.8	09.2	186.3		
08/28	11:32	01	1238.4	08.3	340.0	0000.0	166.7	0876.3	08.6	182.8		
08/28	11:47	01	1173.0	08.2	330.4	0000.0	189.1	0826.9	08.5	193.7		
		AVERAGE	1175.7	08.5	339.8	0000.0	175.1	0826.4	08.9	187.4	GOOD	HOUR

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TOP OF IMAGE AREA
DROPPED HEAD; BEGIN SECTIONS HERE
BEGIN LAST LINE OF TEXT
3/8"
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

EPA Form 2350-1 (4-80)
(PREVIOUSLY CIN. SPA FORM 237)
TYPING GUIDE SHEET

08/28	12:02	01	1217.7	07.7	335.6	0000.0	166.7	0890.0	08.2	188.1	
08/28	12:17	01	1199.0	07.8	333.0	0000.0	162.4	0899.0	08.1	182.0	
08/28	12:32	01	1195.0	07.9	340.2	0000.0	165.9	0916.4	08.2	184.0	
08/28	12:47	01	1253.7	08.0	342.4	0000.0	165.8	1006.1	08.6	184.5	
		AVERAGE	1216.4	07.9	337.8	0000.0	165.2	0927.9	08.3	184.7	GOOD HOUR
08/28	13:02	01	1241.0	08.1	343.2	0000.0	167.1	1006.0	08.4	184.1	
08/28	13:17	01	1230.4	08.1	337.6	0000.0	162.3	0985.0	08.1	179.8	
08/28	13:32	01	1147.0	08.5	335.7	0000.0	160.6	0945.1	08.7	177.3	
08/28	13:47	01	1122.4	08.5	335.5	0000.0	159.8	0916.7	08.6	175.5	
		AVERAGE	1185.2	08.3	338.0	0000.0	162.5	0963.2	08.5	179.2	GOOD HOUR
08/28	14:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/28	14:17	01	1086.4	09.3	334.7	0000.0	159.9	0806.7	11.4	174.7	
08/28	14:32	01	1077.7	09.5	336.7	0000.0	160.3	0843.5	09.9	174.9	
08/28	14:47	01	1061.7	09.4	336.9	0000.0	161.9	0828.5	12.9	175.1	
		AVERAGE	1075.3	09.4	336.1	0000.0	160.7	0826.2	11.4	174.9	GOOD HOUR
08/28	15:05	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/28	15:20	01	1057.0	08.9	341.0	0000.0	162.1	0847.5	09.7	175.9	
08/28	15:32	01	1132.4	08.2	339.9	0000.0	166.2	0485.3	08.5	173.5	
08/28	15:47	01	1163.0	08.2	343.2	0000.0	163.1	0404.8	08.9	179.4	
		AVERAGE	1117.5	08.4	341.4	0000.0	163.8	0579.2	09.0	176.3	GOOD HOUR
08/28	16:02	01	1183.0	08.2	344.9	0000.0	164.6	0370.1	08.8	179.6	
08/28	16:17	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/28	16:32	01	1142.4	09.3	347.9	0000.0	165.6	0387.6	09.7	180.4	
08/28	16:47	01	1337.0	07.3	346.6	0000.0	165.9	0401.9	07.8	179.6	
		AVERAGE	1220.8	08.3	346.5	0000.0	165.4	0386.5	08.8	179.9	GOOD HOUR
08/28	17:02	01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/28	17:17	01	1298.3	07.6	346.2	0000.0	166.2	0859.1	08.2	180.0	
08/28	17:32	01	1307.0	07.2	347.3	0000.0	166.6	0916.7	08.1	179.9	
08/28	17:56	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1302.6	07.4	346.7	0000.0	166.4	0877.9	08.2	179.8	GOOD HOUR
08/28	18:11	01	1266.4	08.3	344.9	0000.0	165.7	0426.7	08.4	178.6	
08/28	18:26	01	1123.0	08.6	345.0	0000.0	165.9	0366.0	09.4	178.0	
08/28	18:44	01	1049.7	08.6	345.9	0000.0	164.9	0249.0	09.5	176.2	
08/28	18:59	01	0951.1	09.1	335.0	0000.0	184.7	0326.5	10.0	193.0	
		AVERAGE	1097.6	08.7	342.7	0000.0	170.3	0342.1	09.3	181.4	GOOD HOUR
08/28	19:13	01	0982.4	09.1	339.8	0000.0	168.3	0107.7	11.8	185.9	
08/28	19:28	01	0961.1	09.3	340.9	0000.0	167.3	0230.0	11.7	180.8	
08/28	19:43	01	0937.1	09.3	341.4	0000.0	166.9	0231.3	12.0	179.2	
08/28	19:58	01	0893.7	09.3	342.7	0000.0	166.3	0323.9	13.0	179.5	
		AVERAGE	0943.6	09.3	341.2	0000.0	167.2	0223.2	12.1	181.4	GOOD HOUR
08/28	20:11	01	0973.8	08.6	343.1	0000.0	166.8	0452.2	09.5	179.4	
08/28	20:26	01	1028.4	08.3	343.6	0000.0	166.6	0559.1	14.0	179.5	
08/28	20:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-90)
(PREVIOUSLY CIN: EPA FORM 187)
PAGE NUMBER
A-10
TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA
OPTIONAL DIMENSION FOR TABLES AND ILLUSTRATIONS

08/28	20:56	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
		AVERAGE	1001.1	08.5	343.4	0000.0	166.7	0505.7	11.8	179.5	GOOD HOUR	
08/28	21:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/28	21:30	01	1125.7	07.5	346.8	0000.0	164.5	0888.2	09.4	179.0		
08/28	21:45	01	1366.3	08.6	347.2	0000.0	164.6	0825.8	09.5	179.6		
08/28	22:00	01	1464.3	09.1	344.3	0000.0	165.0	0658.4	09.9	177.9		
		AVERAGE	1318.8	08.4	346.1	0000.0	164.7	0790.8	09.6	178.8	GOOD HOUR	
08/28	22:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/28	22:30	01	1655.0	08.1	340.2	0000.0	163.4	0648.2	08.9	175.0		
08/28	22:45	01	1744.2	06.5	339.9	0000.0	162.8	0640.2	09.2	174.8		
08/28	23:00	01	1826.0	08.4	339.9	0000.0	163.2	0669.2	09.4	178.3		
		AVERAGE	1741.7	07.7	340.0	0000.0	163.1	0652.5	09.2	176.0	GOOD HOUR	
08/28	23:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/28	23:30	01	1962.2	08.3	340.5	0000.0	237.2	0698.7	09.5	241.4		
08/28	23:45	01	2021.5	08.1	340.3	0000.0	251.5	0706.6	09.4	268.2		
08/28	24:00	01	2082.8	08.2	340.9	0000.0	260.4	0700.4	09.3	284.3		
		AVERAGE	2022.2	08.2	340.6	0000.0	249.7	0701.9	09.4	264.6	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:51	12.4E+07	22.0E+05	28.4E-01	00.0E-02	18.7E-01	100	34.2	GOOD HOUR
01:51	11.9E+07	21.8E+05	25.5E-01	00.0E-02	17.9E-01	100	29.8	GOOD HOUR
02:51	11.9E+07	20.4E+05	30.4E-01	00.0E-02	21.5E-01	100	29.5	GOOD HOUR
03:51	11.6E+07	20.0E+05	38.6E-01	00.0E-02	27.5E-01	100	28.6	GOOD HOUR
04:51	12.4E+07	20.6E+05	37.7E-01	00.0E-02	27.9E-01	100	25.9	GOOD HOUR
05:51	12.6E+07	22.6E+05	35.2E-01	00.0E-02	27.5E-01	100	21.9	GOOD HOUR
06:51	11.6E+07	20.0E+05	37.6E-01	00.0E-02	27.5E-01	100	27.0	GOOD HOUR
07:51	11.9E+07	20.2E+05	36.7E-01	00.0E-02	28.7E-01	100	21.7	GOOD HOUR
08:51	11.5E+07	19.2E+05	35.9E-01	00.0E-02	35.1E-01	100	02.3	GOOD HOUR
09:51	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:47	12.0E+07	21.2E+05	34.8E-01	00.0E-02	26.9E-01	100	22.6	GOOD HOUR
11:47	11.1E+07	18.4E+05	32.4E-01	00.0E-02	23.4E-01	100	27.7	GOOD HOUR
12:47	12.0E+07	18.9E+05	31.8E-01	00.0E-02	25.0E-01	100	21.1	GOOD HOUR
13:47	12.5E+07	20.3E+05	32.0E-01	00.0E-02	26.4E-01	100	17.8	GOOD HOUR
14:47	11.8E+07	21.0E+05	31.9E-01	00.0E-02	29.6E-01	100	07.0	GOOD HOUR
15:47	10.4E+07	17.1E+05	30.5E-01	00.0E-02	16.6E-01	100	45.5	GOOD HOUR
16:47	11.5E+07	18.7E+05	32.9E-01	00.0E-02	10.9E-01	100	67.0	GOOD HOUR
17:56	12.2E+07	18.6E+05	3.28E-02	00.0E-02	2.38E-02	100	28.0	GOOD HOUR
18:59	12.2E+07	20.5E+05	30.5E-01	00.0E-02	10.1E-01	100	67.0	GOOD HOUR
19:58	10.8E+07	19.1E+05	27.6E-01	00.0E-02	86.7E-02	100	68.6	GOOD HOUR
20:56	10.4E+07	17.1E+05	27.4E-01	00.0E-02	18.8E-01	100	31.3	GOOD HOUR
22:00	11.5E+07	18.9E+05	35.9E-01	00.0E-02	23.8E-01	100	33.7	GOOD HOUR
23:00	12.0E+07	18.6E+05	44.8E-01	00.0E-02	18.9E-01	100	57.7	GOOD HOUR
24:00	11.5E+07	18.6E+05	54.2E-01	00.0E-02	20.8E-01	100	61.7	GOOD HOUR
		AVERAGE	34.1E-01		22.4E-01		34.0	

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "Z_SEPT____AUG  29,1980"

                                                    AUG  29,1980


ENTER FILE NAME
 ? IN8290
ENTER OUTPUT FILE NAME
 ? OUT8290
ENTER PROCESS DATA FILE NAME
 ? P8290
ENTER HEAT INPUT CONTENT
 ? 12500
   TIME    COAL RATE  STM RATE   COAL TYPE  UPSET CON
           LB/HR      LB/HR


   0100     10140      00000        BT          NO

   0200     10510      00000        BT          NO

   0300     10140      00000        BT          NO

   0400     10510      00000        BT          NO

   0500     09590      00000        BT          NO

   0600     08480      00000        BT          NO

   0700     09410      00000        BT          NO

   0800     10330      00000        BT          NO

   0900     08970      00000        BT          NO

   1000     07420      00000        BT          NO

   1100     08630      00000        BT          NO

   1200     09660      00000        BT          NO

   1300     08800      00000        BT          NO
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1400	08970	00000	BT	NO
1500	08630	00000	BT	NO
1600	08630	00000	BT	NO
1700	08630	00000	BT	NO
1800	08630	00000	BT	NO
1900	08630	00000	BT	NO
2000	08800	00000	BT	NO
2100	08970	00000	BT	NO
2200	08280	00000	BT	NO
2300	08280	00000	BT	NO
2400	07770	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
08/29	00:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	00:30	01	2198.5	08.7	342.6	0000.0	270.4	0669.3	09.6	302.4	
08/29	00:45	01	2260.3	08.3	342.9	0000.0	273.2	0685.7	09.6	307.2	
08/29	01:00	01	2321.5	08.2	342.7	0000.0	273.7	0765.1	09.3	310.2	
		AVERAGE	2260.1	08.4	342.7	0000.0	272.4	0706.7	09.5	306.6	GOOD HOUR
08/29	01:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	01:30	01	2443.2	07.5	342.6	0000.0	275.1	0969.6	08.9	310.0	
08/29	01:45	01	2509.0	09.3	341.3	0000.0	252.3	0892.3	09.9	299.6	
08/29	02:00	01	2576.2	08.9	341.1	0000.0	207.8	0477.1	09.7	259.7	
		AVERAGE	2509.5	08.6	341.7	0000.0	245.1	0779.7	09.5	289.8	GOOD HOUR
08/29	02:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	02:30	01	2698.6	08.9	336.5	0000.0	171.0	0283.8	09.7	207.5	
08/29	02:45	01	2751.1	08.8	336.8	0000.0	164.6	0246.8	09.6	194.5	
08/29	03:00	01	2807.6	08.5	337.8	0000.0	172.7	0161.2	09.2	188.1	
		AVERAGE	2752.4	08.7	337.0	0000.0	169.4	0230.6	09.5	196.7	GOOD HOUR
08/29	03:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	03:30	01	2910.0	08.3	339.6	0000.0	157.6	0410.5	09.2	187.8	
08/29	03:45	01	2960.6	08.3	340.1	0000.0	159.1	0483.2	09.2	185.3	
08/29	04:00	01	3012.5	07.6	340.9	0000.0	166.7	0191.8	08.4	183.4	
		AVERAGE	2961.0	08.1	340.2	0000.0	161.1	0361.8	08.9	185.5	GOOD HOUR
08/29	04:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

08/29	04:30	01	3121.5	08.3	342.3	0000.0	166.6	0260.8	09.1	181.9	
08/29	04:45	01	3172.7	08.1	344.6	0000.0	171.7	0285.4	09.1	183.6	
08/29	05:00	01	3227.2	08.0	343.8	0000.0	179.7	0190.4	09.1	177.5	
		AVERAGE	3173.8	08.1	343.6	0000.0	172.7	0245.5	09.1	181.0	GOOD HOUR
08/29	05:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	05:30	01	3348.3	08.5	342.6	0000.0	168.7	0228.6	09.4	183.3	
08/29	05:45	01	3409.5	08.5	342.8	0000.0	168.0	0165.8	09.2	179.8	
08/29	06:00	01	3466.0	08.4	341.9	0000.0	180.6	0254.9	09.4	184.8	
		AVERAGE	3407.9	08.5	342.4	0000.0	172.4	0216.4	09.3	182.6	GOOD HOUR
08/29	06:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	06:30	01	3563.1	08.2	343.1	0000.0	172.4	0188.0	09.2	185.9	
08/29	06:45	01	3604.3	08.5	343.0	0000.0	179.4	0248.7	09.2	185.7	
08/29	07:00	01	0365.2	08.8	342.4	0000.0	171.0	0305.1	09.4	184.0	
		AVERAGE	2510.9	08.5	342.8	0000.0	174.3	0247.3	09.3	185.2	GOOD HOUR
08/29	07:15	01	0921.0	08.6	343.6	0000.0	182.4	0112.1	09.3	179.4	
08/29	07:30	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	07:45	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	08:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0921.0	08.6	343.6	0000.0	182.4	0112.1	09.3	179.4	BAD HOUR
08/29	08:16	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	08:31	01	0810.6	11.2	350.5	0000.0	175.4	0160.2	15.3	187.3	
08/29	08:46	01	0837.2	10.9	352.4	0000.0	175.6	0161.3	15.6	188.7	
08/29	09:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0823.9	11.1	351.5	0000.0	175.5	0160.8	15.5	188.0	GOOD HOUR
08/29	09:12	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	09:27	01	0959.0	09.7	348.8	0000.0	168.7	0094.7	10.8	179.1	
08/29	09:42	01	0949.6	08.6	350.0	0000.0	175.3	0168.2	09.9	184.1	
08/29	09:57	01	0984.2	08.7	350.3	0000.0	182.2	0234.3	10.2	191.5	
		AVERAGE	0964.3	09.0	349.7	0000.0	175.4	0165.7	10.3	184.9	GOOD HOUR
08/29	10:11	01	0899.1	08.7	348.8	0000.0	185.0	0253.5	09.0	199.3	
08/29	10:26	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	10:41	01	0929.0	06.9	347.9	0000.0	171.4	0149.6	07.9	188.4	
08/29	10:56	01	1003.4	06.4	347.3	0000.0	176.0	0135.0	07.2	182.8	
		AVERAGE	0943.8	07.3	348.0	0000.0	177.5	0179.4	08.0	190.2	GOOD HOUR
08/29	11:13	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/29	11:28	01	0830.6	08.5	345.2	0000.0	167.7	0072.4	09.2	180.6	
08/29	11:43	01	0839.9	08.6	342.5	0000.0	161.9	0039.2	09.7	176.2	
08/29	11:58	01	0869.2	08.8	345.9	0000.0	171.9	0035.8	09.6	177.6	
		AVERAGE	0846.6	08.6	344.5	0000.0	167.2	0049.1	09.5	178.1	GOOD HOUR
08/29	12:11	01	0937.7	08.8	339.7	0000.0	162.5	0073.8	08.8	187.9	
08/29	12:26	01	0985.1	07.1	338.9	0000.0	162.7	0044.5	08.4	177.9	
08/29	12:41	01	1002.4	06.6	342.2	0000.0	165.3	0061.1	07.3	178.4	

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3/8"
EPA Form 2350-4 (4-80)
(PREVIOUS EDITIONS OBSOLETE)
PAGE NUMBER
A-14
TYPING GUIDE SHEET
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
BOTTOM OF IMAGE AREA
TOP OF IMAGE AREA

08/29	12:56	01	0900.4	07.9	342.6	0000.0	163.6	0045.6	08.9	177.4		
		AVERAGE	0956.4	07.6	340.9	0000.0	163.5	0056.3	08.4	180.4	GOOD	HOUR
08/29	13:11	01	0928.4	08.0	341.8	0000.0	163.9	0042.4	09.2	176.9		
08/29	13:26	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
08/29	13:41	01	0729.8	09.5	346.8	0000.0	161.8	0481.2	10.3	178.3		
08/29	13:56	01	0793.1	07.9	347.5	0000.0	164.5	0424.0	08.9	181.4		
		AVERAGE	0817.1	08.5	345.4	0000.0	163.4	0315.9	09.5	178.9	GOOD	HOUR
08/29	14:11	01	0778.5	07.9	343.4	0000.0	161.9	0298.0	08.6	178.8		
08/29	14:26	01	0741.8	08.3	342.9	0000.0	163.7	0236.2	09.2	178.7		
08/29	14:41	01	0770.5	08.5	341.3	0000.0	155.7	0169.7	09.1	176.0		
08/29	14:56	01	0801.1	08.1	342.1	0000.0	167.9	0168.6	09.1	185.0		
		AVERAGE	0773.0	08.2	342.4	0000.0	162.3	0218.1	09.0	179.6	GOOD	HOUR
08/29	15:11	01	0801.1	08.4	342.0	0000.0	164.6	0238.1	09.1	183.3		
08/29	15:26	01	0916.4	06.9	342.5	0000.0	162.4	0159.2	07.9	177.2		
08/29	15:41	01	0901.7	08.1	340.6	0000.0	170.5	0180.2	09.5	189.2		
08/29	15:56	01	0874.5	08.6	341.4	0000.0	175.4	0198.8	09.5	183.3		
		AVERAGE	0873.4	08.0	341.6	0000.0	168.2	0194.1	09.0	183.3	GOOD	HOUR
08/29	16:11	01	0909.1	08.5	341.8	0000.0	165.7	0307.9	09.4	183.3		
08/29	16:26	01	0985.8	07.7	341.4	0000.0	167.0	0134.5	08.7	180.1		
08/29	16:41	01	1079.7	07.9	341.1	0000.0	165.0	0111.1	08.7	178.1		
08/29	16:56	01	1127.1	08.1	341.1	0000.0	163.9	0114.0	09.2	176.8		
		AVERAGE	1025.4	08.0	341.4	0000.0	165.4	0166.9	09.0	179.6	GOOD	HOUR
08/29	17:11	01	1151.7	08.0	341.4	0000.0	162.0	0230.0	09.1	177.2		
08/29	17:26	01	1153.7	08.2	342.8	0000.0	163.5	0166.3	09.1	176.6		
08/29	17:41	01	1073.7	09.4	344.4	0000.0	163.2	0167.3	09.8	177.6		
08/29	17:56	01	1212.4	06.9	343.6	0000.0	161.1	0096.2	08.4	174.3		
		AVERAGE	1147.9	08.1	343.1	0000.0	162.5	0165.0	09.1	176.4	GOOD	HOUR
08/29	18:11	01	1160.4	07.9	342.6	0000.0	192.2	0468.5	08.5	198.4		
08/29	18:26	01	0913.7	08.3	338.2	0000.0	164.8	0150.3	08.8	194.3		
08/29	18:41	01	0987.1	07.5	339.4	0000.0	169.6	0110.7	08.5	186.3		
08/29	18:56	01	0993.8	07.5	340.2	0000.0	167.7	0094.9	08.8	182.4		
		AVERAGE	1013.8	07.8	340.1	0000.0	173.6	0206.1	08.7	190.4	GOOD	HOUR
08/29	19:11	01	1101.1	07.1	341.2	0000.0	165.5	0097.8	08.4	179.3		
08/29	19:26	01	1184.4	07.0	342.3	0000.0	163.7	0121.0	07.7	177.4		
08/29	19:41	01	1013.7	08.7	341.3	0000.0	161.8	0094.0	09.2	176.3		
08/29	19:56	01	1079.1	08.2	341.7	0000.0	162.3	0097.2	09.1	175.5		
		AVERAGE	1094.6	07.8	341.6	0000.0	163.3	0102.5	08.6	177.1	GOOD	HOUR
08/29	20:11	01	0926.4	08.9	341.7	0000.0	161.8	0091.8	09.5	175.3		
08/29	20:26	01	0999.0	08.6	342.4	0000.0	161.2	0081.6	09.8	174.2		
08/29	20:41	01	1023.1	08.6	342.9	0000.0	161.1	0074.2	09.7	173.7		
08/29	20:56	01	1035.7	08.4	343.3	0000.0	161.6	0112.6	09.5	173.9		
		AVERAGE	0996.1	08.6	342.6	0000.0	161.4	0090.0	09.6	174.3	GOOD	HOUR

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TOP OF IMAGE AREA
EPA Form 2320-4 (4-80)
PREVIOUSLY CIR. EPA FORM 251
PAGE NUMBER
A-15
TYPING GUIDE SHEET

08/29	21:11	01	1021.1	08.4	343.5	0000.0	161.2	0139.5	09.3	174.6	
08/29	21:26	01	1018.4	08.6	343.4	0000.0	162.5	0146.2	09.5	174.9	
08/29	21:41	01	0952.4	09.0	345.2	0000.0	164.1	0140.0	10.2	176.2	
08/29	21:56	01	0939.1	08.8	345.2	0000.0	162.0	0159.1	10.2	176.9	
		AVERAGE	0982.8	08.7	344.3	0000.0	162.5	0146.2	09.8	175.7	GOOD HOUR
08/29	22:11	01	0965.8	08.5	344.4	0000.0	164.6	0153.5	09.7	177.1	
08/29	22:26	01	0833.1	09.8	343.8	0000.0	163.4	0125.3	10.8	176.8	
08/29	22:41	01	0865.8	09.8	343.1	0000.0	163.5	0119.6	10.5	176.2	
08/29	22:56	01	0908.4	09.5	343.3	0000.0	164.1	0137.5	10.5	176.0	
		AVERAGE	0893.3	09.4	343.7	0000.0	163.9	0134.0	10.4	176.5	GOOD HOUR
08/29	23:11	01	1094.4	07.5	344.4	0000.0	163.2	0228.8	08.9	175.7	
08/29	23:26	01	1120.4	07.4	344.1	0000.0	164.5	0222.6	08.5	175.6	
08/29	23:41	01	1209.7	06.8	345.8	0000.0	163.9	0309.1	08.1	176.4	
08/29	23:56	01	1221.0	06.8	344.7	0000.0	166.0	0329.3	08.0	178.3	
		AVERAGE	1161.4	07.1	344.7	0000.0	164.4	0272.5	08.4	176.5	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
01:00	12.7E+07	20.8E+05	61.6E-01	00.0E-02	21.1E-01	100	65.7	GOOD HOUR
02:00	13.1E+07	21.9E+05	69.3E-01	00.0E-02	23.3E-01	100	66.4	GOOD HOUR
03:00	12.7E+07	21.4E+05	77.1E-01	00.0E-02	68.9E-02	100	91.1	GOOD HOUR
04:00	13.1E+07	21.0E+05	78.6E-01	00.0E-02	10.3E-01	100	86.9	GOOD HOUR
05:00	12.0E+07	19.3E+05	84.7E-01	00.0E-02	70.9E-02	100	91.6	GOOD HOUR
06:00	10.6E+07	17.5E+05	93.4E-01	00.0E-02	63.8E-02	100	93.2	GOOD HOUR
07:00	11.8E+07	19.5E+05	69.0E-01	00.0E-02	72.4E-02	100	89.5	GOOD HOUR
08:00	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
09:00	11.2E+07	23.4E+05	28.5E-01	00.0E-02	10.0E-01	100	64.7	GOOD HOUR
09:57	92.8E+06	16.0E+05	27.6E-01	00.0E-02	53.3E-02	100	80.7	GOOD HOUR
10:56	10.8E+07	16.3E+05	23.7E-01	00.0E-02	47.5E-02	100	80.0	GOOD HOUR
11:58	12.1E+07	20.2E+05	23.5E-01	00.0E-02	14.7E-02	100	93.8	GOOD HOUR
12:56	11.0E+07	17.0E+05	24.5E-01	00.0E-02	15.3E-02	100	93.8	GOOD HOUR
13:56	11.2E+07	18.5E+05	22.4E-01	00.0E-02	94.1E-02	100	58.0	GOOD HOUR
14:56	10.8E+07	17.4E+05	20.7E-01	00.0E-02	62.4E-02	100	69.9	GOOD HOUR
15:56	10.8E+07	17.2E+05	23.1E-01	00.0E-02	55.6E-02	100	75.9	GOOD HOUR
16:56	10.8E+07	17.2E+05	27.2E-01	00.0E-02	47.8E-02	100	82.4	GOOD HOUR
17:56	10.8E+07	17.3E+05	30.6E-01	00.0E-02	47.6E-02	100	84.4	GOOD HOUR
18:56	10.8E+07	16.9E+05	26.4E-01	00.0E-02	57.3E-02	100	78.3	GOOD HOUR
19:56	11.0E+07	17.2E+05	28.4E-01	00.0E-02	28.4E-02	100	90.0	GOOD HOUR
20:56	11.2E+07	18.7E+05	27.6E-01	00.0E-02	27.2E-02	100	90.2	GOOD HOUR
21:56	10.4E+07	17.4E+05	27.4E-01	00.0E-02	44.9E-02	100	83.6	GOOD HOUR
22:56	10.4E+07	18.5E+05	26.5E-01	00.0E-02	43.4E-02	100	83.6	GOOD HOUR
23:56	97.1E+06	14.5E+05	28.7E-01	00.0E-02	74.1E-02	100	74.2	GOOD HOUR
		AVERAGE	41.3E-01		71.2E-02		81.2	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
 ? "AUG 30,1980"

AUG 30,1980

ENTER FILE NAME
 ? IN8300
ENTER OUTPUT FILE NAME
 ? OUT8300
ENTER PROCESS DATA FILE NAME
 ? P8300
ENTER HEAT INPUT CONTENT
 ? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	09320	00000	BT	NO
0200	09490	00000	BT	NO
0300	10010	00000	BT	NO
0400	09490	00000	BT	NO
0500	09320	00000	BT	NO
0600	08630	00000	BT	NO
0700	08800	00000	BT	NO
0800	09840	00000	BT	NO
0900	10180	00000	BT	NO
1000	09620	00000	BT	NO
1100	09620	00000	BT	NO
1200	10360	00000	BT	NO
1300	09990	00000	BT	NO

1400	10550	00000	BT	NO
1500	09440	00000	BT	NO
1600	09810	00000	BT	NO
1700	10180	00000	BT	NO
1800	10180	00000	BT	NO
1900	09990	00000	BT	NO
2000	09990	00000	BT	NO
2100	10180	00000	BT	NO
2200	10730	00000	BT	NO
2300	10730	00000	BT	NO
2400	10550	00000	BT	NO

DATE	TIME	CO		SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
08/30	00:11	01		1277.7	06.6	344.5	0000.0	162.8	0096.4	07.9	175.8	
08/30	00:26	01		1267.7	06.6	345.1	0000.0	165.6	0105.0	07.8	176.6	
08/30	00:41	01		1225.0	06.9	345.0	0000.0	166.3	0095.4	08.0	177.4	
08/30	00:56	01		1215.7	07.5	347.3	0000.0	162.2	0091.1	08.7	176.4	
			AVERAGE	1246.5	06.9	345.5	0000.0	164.2	0097.0	08.1	176.6	GOOD HOUR
08/30	01:11	01		1171.7	07.0	348.9	0000.0	165.9	0111.1	08.9	179.3	
08/30	01:26	01		1154.5	07.3	346.4	0000.0	164.6	0096.9	08.7	178.1	
08/30	01:41	01		1102.4	07.5	345.5	0000.0	164.6	0086.5	09.0	177.7	
08/30	01:56	01		1098.4	07.6	345.1	0000.0	165.1	0092.6	08.8	177.5	
			AVERAGE	1131.7	07.4	346.5	0000.0	165.1	0096.8	08.9	178.2	GOOD HOUR
08/30	02:11	00		0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	02:26	01		1015.7	07.9	344.8	0000.0	161.9	0071.4	08.4	175.5	
08/30	02:41	00		0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	02:56	00		0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
			AVERAGE	1015.7	07.9	344.8	0000.0	161.9	0071.4	08.4	175.5	BAD HOUR
08/30	03:11	00		0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	03:26	00		0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	03:41	01		0989.8	08.5	338.6	0000.0	167.2	0228.4	09.8	183.9	
08/30	03:56	01		1039.7	08.6	339.9	0000.0	164.2	0215.2	09.8	180.4	
			AVERAGE	1014.8	08.6	339.3	0000.0	165.7	0221.8	09.8	182.1	GOOD HOUR
08/30	04:11	01		1010.4	08.7	340.6	0000.0	162.5	0189.5	10.3	178.3	

08/30	04:26	01	1044.4	08.8	341.7	0000.0	163.1	0195.0	10.1	178.1	
08/30	04:41	01	1006.4	08.9	342.8	0000.0	163.6	0199.8	10.0	177.8	
08/30	04:56	01	1037.7	09.0	343.1	0000.0	164.6	0189.8	10.9	178.3	
		AVERAGE	1024.7	08.9	342.1	0000.0	163.4	0193.5	10.3	178.1	GOOD HOUR
08/30	05:11	01	1067.7	09.1	344.9	0000.0	166.5	0180.2	10.9	178.6	
08/30	05:26	01	1296.3	09.2	343.2	0000.0	165.9	0273.3	09.2	179.0	
08/30	05:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	05:56	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1182.0	09.2	344.0	0000.0	166.2	0226.8	10.1	178.8	GOOD HOUR
08/30	06:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	06:26	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	06:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	06:56	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
08/30	07:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	07:26	00	0000.0	00.0	000.0	0174.2	000.0	0000.0	00.0	000.0	
08/30	07:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	07:56	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0043.6	000.0	0000.0	00.0	000.0	BAD HOUR
08/30	08:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	08:26	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	08:41	01	1281.7	07.5	340.2	0000.0	160.8	0283.5	08.2	177.8	
08/30	08:56	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1281.7	07.5	340.2	0000.0	160.8	0283.5	08.2	177.8	BAD HOUR
08/30	09:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	09:26	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	09:44	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	09:59	01	0941.7	08.5	339.1	0000.0	157.6	0250.0	08.8	175.6	
		AVERAGE	0941.7	08.5	339.1	0000.0	157.6	0250.0	08.8	175.6	BAD HOUR
08/30	10:14	01	1010.4	08.8	339.2	0000.0	156.6	0182.2	09.3	172.8	
08/30	10:29	01	1097.1	08.3	338.6	0000.0	156.2	0165.3	08.6	172.0	
08/30	10:44	01	1143.7	08.0	338.2	0000.0	156.3	0186.3	08.3	171.4	
08/30	10:59	01	1193.0	07.6	330.8	0000.0	170.2	0425.8	07.9	189.1	
		AVERAGE	1111.0	08.2	336.7	0000.0	159.8	0239.9	08.5	176.3	GOOD HOUR
08/30	11:14	01	1297.0	07.7	334.5	0000.0	158.5	0333.7	07.9	176.2	
08/30	11:29	01	1379.7	07.5	335.1	0000.0	156.8	0351.2	07.6	173.6	
08/30	11:44	01	1435.6	06.8	333.8	0000.0	153.4	0358.8	07.2	170.1	
08/30	11:59	01	1271.0	07.9	338.3	0000.0	153.7	0298.6	08.2	170.8	
		AVERAGE	1345.8	07.5	335.4	0000.0	155.6	0335.6	07.7	172.7	GOOD HOUR
08/30	12:14	01	1289.7	07.9	334.6	0000.0	152.7	0314.7	08.4	169.1	
08/30	12:29	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/30	12:44	01	1250.3	08.1	017.4	0000.0	154.5	0328.8	08.3	169.4	

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3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN, EPA FORM 257)
PAGE NUMBER
A-19
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
CENTER OF PAGE
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
TOP OF IMAGE AREA

08/30	12:59	01	1341.0	07.4	337.9	0000.0	160.1	0382.1	07.8	171.4	
		AVERAGE	1293.7	07.8	230.0	0000.0	155.8	0341.9	08.2	170.0	GOOD HOUR
08/30	13:14	01	1347.6	06.9	337.3	0000.0	159.0	0401.4	07.1	172.8	
08/30	13:29	01	1266.4	07.4	339.7	0000.0	158.6	0334.7	08.0	172.7	
08/30	13:44	01	1289.0	06.9	338.6	0000.0	161.0	0321.5	07.1	173.5	
08/30	13:59	01	1259.0	07.7	337.6	0000.0	160.1	0327.8	07.7	174.1	
		AVERAGE	1290.5	07.2	338.3	0000.0	159.7	0346.4	07.5	173.3	GOOD HOUR
08/30	14:14	01	1336.3	08.6	337.1	0000.0	159.9	0341.4	08.7	174.2	
08/30	14:29	01	1472.3	08.6	336.8	0000.0	160.0	0399.2	08.9	173.9	
08/30	14:44	01	1575.6	08.8	337.1	0000.0	161.1	0446.4	08.8	173.2	
08/30	14:59	01	1765.6	08.0	338.0	0000.0	161.2	0533.8	08.3	174.9	
		AVERAGE	1537.4	08.5	337.3	0000.0	160.6	0430.2	08.7	174.1	GOOD HOUR
08/30	15:14	01	1806.2	08.3	340.2	0000.0	161.6	0550.4	08.4	174.3	
08/30	15:29	01	1925.5	07.9	338.6	0000.0	161.6	0682.2	08.1	175.6	
08/30	15:44	01	1860.9	08.2	336.9	0000.0	158.8	0678.2	08.3	174.9	
08/30	15:59	01	1811.5	08.5	336.4	0000.0	157.7	0656.8	08.5	173.9	
		AVERAGE	1851.0	08.2	338.0	0000.0	159.9	0641.9	08.3	174.7	GOOD HOUR
08/30	16:14	01	1749.6	08.3	338.7	0000.0	159.7	0607.6	08.4	174.5	
08/30	16:29	01	1533.0	08.1	342.3	0000.0	164.7	0547.5	08.5	181.4	
08/30	16:44	01	1524.3	06.9	344.5	0000.0	184.3	0470.4	07.6	178.8	
08/30	16:59	01	1451.6	06.5	344.3	0000.0	163.9	0441.4	07.2	178.3	
		AVERAGE	1564.6	07.5	342.5	0000.0	168.1	0516.7	07.9	178.3	GOOD HOUR
08/30	17:14	01	1369.0	06.9	343.4	0000.0	161.8	0379.7	07.8	176.8	
08/30	17:29	01	1341.0	06.9	345.5	0000.0	161.1	0325.3	08.5	176.2	
08/30	17:44	01	1277.0	07.1	344.8	0000.0	158.9	0279.6	08.1	174.7	
08/30	17:59	01	1196.4	07.4	343.1	0000.0	157.0	0258.8	08.4	174.1	
		AVERAGE	1295.9	07.1	344.2	0000.0	159.7	0310.9	08.2	175.5	GOOD HOUR
08/30	18:14	01	1135.7	07.4	342.8	0000.0	162.6	0225.7	08.9	174.3	
08/30	18:29	01	1093.7	08.1	336.4	0000.0	167.6	0409.1	08.6	193.0	
08/30	18:44	01	1165.0	07.1	337.0	0000.0	159.5	0290.3	07.8	181.5	
08/30	18:59	01	1049.0	07.5	338.3	0000.0	166.6	0251.0	08.0	181.0	
		AVERAGE	1110.9	07.5	338.6	0000.0	164.1	0294.0	08.3	182.5	GOOD HOUR
08/30	19:14	01	0951.1	07.7	338.3	0000.0	154.3	0143.2	08.4	175.5	
08/30	19:29	01	0911.1	07.8	341.0	0000.0	154.9	0142.0	08.3	174.9	
08/30	19:44	01	0867.1	08.1	342.0	0000.0	156.9	0208.2	08.9	176.3	
08/30	19:59	01	1193.0	07.4	342.9	0000.0	155.8	0276.4	08.0	175.8	
		AVERAGE	0980.6	07.8	341.0	0000.0	155.5	0192.5	08.4	175.6	GOOD HOUR
08/30	20:14	01	1263.6	08.2	343.2	0000.0	155.8	0286.1	08.7	174.8	
08/30	20:29	01	1449.0	07.2	343.2	0000.0	157.2	0358.8	07.8	173.9	
08/30	20:44	01	1583.0	06.8	341.9	0000.0	154.3	0408.8	07.6	171.9	
08/30	20:59	01	1615.6	07.0	343.5	0000.0	154.9	0520.0	07.4	172.6	
		AVERAGE	1477.8	07.3	342.9	0000.0	155.6	0393.4	07.9	173.3	GOOD HOUR

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EPA Form 2350-4 (4-80) [PREVIOUSLY EIN, EPA FORM 287]
PAGE NUMBER
A-20
TYPING GUIDE SHEET
BOTTOM OF PAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

08/30	21:14	01	1651.6	06.8	343.4	0000.0	153.9	0552.3	07.7	173.1		
08/30	21:29	01	1609.6	06.8	346.7	0000.0	161.4	0637.3	07.4	176.4		
08/30	21:44	01	1651.6	06.9	346.7	0000.0	162.5	0653.3	07.5	176.2		
08/30	21:59	01	1609.6	06.7	346.8	0000.0	163.1	0577.0	07.5	175.4		
		AVERAGE	1630.6	06.8	345.9	0000.0	160.2	0605.0	07.5	175.3	GOOD HOUR	
08/30	22:14	01	1594.3	06.8	344.7	0000.0	161.6	0622.6	07.4	175.2		
08/30	22:29	01	1635.6	06.6	343.4	0000.0	161.0	0643.5	07.4	174.8		
08/30	22:44	01	1571.6	07.1	345.7	0000.0	161.7	0623.9	07.7	176.1		
08/30	22:59	01	1546.3	06.9	345.2	0000.0	161.9	0620.2	07.7	175.0		
		AVERAGE	1586.9	06.9	344.7	0000.0	161.6	0627.6	07.6	175.3	GOOD HOUR	
08/30	23:14	01	1547.6	07.2	344.1	0000.0	162.3	0569.3	07.8	174.8		
08/30	23:29	01	1539.6	07.3	343.9	0000.0	160.6	0476.0	07.9	173.9		
08/30	23:44	01	1446.3	07.2	346.1	0000.0	162.9	0412.5	07.7	175.3		
08/30	23:59	01	1446.9	07.1	345.9	0000.0	162.6	0393.1	07.7	175.6		
		AVERAGE	1495.1	07.2	345.0	0000.0	162.1	0462.7	07.8	174.9	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:56	11.7E+07	17.1E+05	30.3E-01	00.0E-02	25.8E-02	100	91.5	GOOD HOUR
01:56	11.9E+07	18.0E+05	28.5E-01	00.0E-02	27.4E-02	100	90.4	GOOD HOUR
02:56	00.0E-02	00.8E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
03:56	11.9E+07	19.7E+05	28.0E-01	00.0E-02	68.1E-02	100	75.7	GOOD HOUR
04:56	11.7E+07	19.8E+05	29.0E-01	00.0E-02	62.3E-02	100	78.5	GOOD HOUR
05:56	10.8E+07	18.8E+05	34.3E-01	00.0E-02	71.2E-02	100	79.2	GOOD HOUR
06:56	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
07:56	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
08:56	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
09:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:59	12.0E+07	19.4E+05	29.7E-01	00.0E-02	66.0E-02	100	77.8	GOOD HOUR
11:59	12.9E+07	19.8E+05	34.2E-01	00.0E-02	86.8E-02	100	74.6	GOOD HOUR
12:59	12.5E+07	19.6E+05	33.6E-01	00.0E-02	91.5E-02	100	72.8	GOOD HOUR
13:59	13.2E+07	19.8E+05	32.2E-01	00.0E-02	87.9E-02	100	72.7	GOOD HOUR
14:59	11.8E+07	19.5E+05	42.2E-01	00.0E-02	12.0E-01	100	71.6	GOOD HOUR
15:59	12.3E+07	19.9E+05	49.8E-01	00.0E-02	17.4E-01	100	65.0	GOOD HOUR
16:59	12.7E+07	19.4E+05	39.6E-01	00.0E-02	13.6E-01	100	65.8	GOOD HOUR
17:59	12.7E+07	18.9E+05	31.9E-01	00.0E-02	83.4E-02	100	73.9	GOOD HOUR
18:59	12.5E+07	19.2E+05	28.3E-01	00.0E-02	79.7E-02	100	71.8	GOOD HOUR
19:59	12.5E+07	19.5E+05	25.4E-01	00.0E-02	52.5E-02	100	79.4	GOOD HOUR
20:59	12.7E+07	19.2E+05	37.0E-01	00.0E-02	10.3E-01	100	72.2	GOOD HOUR
21:59	13.4E+07	19.5E+05	39.4E-01	00.0E-02	15.4E-01	100	60.9	GOOD HOUR
22:59	13.4E+07	19.6E+05	38.5E-01	00.0E-02	16.0E-01	100	58.4	GOOD HOUR
23:59	13.2E+07	19.8E+05	37.2E-01	00.0E-02	12.0E-01	100	67.7	GOOD HOUR
		AVERAGE	34.2E-01		93.1E-02		73.7	

GOOD DAY

BEGIN LAST LINE OF TEXT
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN-F'A FORM 257)
3 3/8"
PAGE NUMBER
A-21
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "AUG 31,1980"

AUG 31,1980

ENTER FILE NAME
? IN8310
ENTER OUTPUT FILE NAME
? OUT8310
ENTER PROCESS DATA FILE NAME
? P8310
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	10360	00000	BT	NO
0200	10360	00000	BT	NO
0300	10550	00000	BT	NO
0400	10180	00000	BT	NO
0500	07590	00000	BT	NO
0600	06480	00000	BT	NO
0700	06480	00000	BT	NO
0800	10360	00000	BT	NO
0900	10310	00000	BT	NO
1000	10130	00000	BT	NO
1100	09210	00000	BT	NO
1200	08840	00000	BT	NO
1300	09210	00000	BT	NO

1400	09760	00000	BT	NO
1500	09940	00000	BT	NO
1600	10310	00000	BT	NO
1700	09940	00000	BT	NO
1800	09760	00000	BT	NO
1900	10130	00000	BT	NO
2000	10500	00000	BT	NO
2100	10500	00000	BT	NO
2200	10130	00000	BT	NO
2300	09580	00000	BT	NO
2400	09760	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
08/31	00:14	01	1357.0	07.4	345.8	0000.0	162.9	0389.0	08.1	175.0	
08/31	00:29	01	1307.7	07.6	345.9	0000.0	163.3	0353.4	08.2	175.4	
08/31	00:44	01	1285.0	08.0	345.1	0000.0	163.1	0348.0	08.6	175.6	
08/31	00:59	01	1195.7	08.5	345.0	0000.0	161.9	0298.9	09.1	174.9	
		AVERAGE	1286.4	07.9	345.5	0000.0	162.8	0347.3	08.5	175.2	GOOD HOUR
08/31	01:14	01	1096.4	08.9	347.8	0000.0	162.8	0280.8	09.6	177.1	
08/31	01:29	01	1203.0	08.0	347.7	0000.0	159.5	0290.4	09.2	174.4	
08/31	01:44	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/31	01:59	01	1384.3	07.0	346.1	0000.0	162.0	0367.2	07.9	175.5	
		AVERAGE	1227.9	08.0	347.2	0000.0	161.4	0312.8	08.9	175.7	GOOD HOUR
08/31	02:14	01	1473.6	06.5	347.3	0000.0	162.6	0422.3	07.1	175.4	
08/31	02:29	01	1500.3	06.1	346.4	0000.0	184.5	0873.0	07.1	194.7	
08/31	02:44	01	1540.3	06.3	339.4	0000.0	165.7	0540.9	07.0	182.4	
08/31	02:59	01	1470.3	07.0	340.3	0000.0	163.0	0475.6	07.9	177.4	
		AVERAGE	1496.1	06.5	343.4	0000.0	169.0	0578.0	07.3	182.5	GOOD HOUR
08/31	03:14	01	1509.0	07.0	339.1	0000.0	152.4	0421.7	07.9	172.7	
08/31	03:29	01	1533.0	07.2	341.3	0000.0	150.8	0382.0	08.4	171.8	
08/31	03:44	01	1549.6	07.2	342.5	0000.0	154.9	0429.8	08.2	172.1	
08/31	03:59	01	1545.6	07.3	343.9	0000.0	156.4	0473.7	08.1	172.8	
		AVERAGE	1534.3	07.2	341.7	0000.0	153.6	0426.8	08.2	172.3	GOOD HOUR
08/31	04:14	01	1550.3	07.0	344.2	0000.0	158.4	0558.9	08.2	173.8	

08/31	04:29	01	1533.0	07.3	344.0	0000.0	157.6	0525.2	08.2	173.2	
08/31	04:44	01	1559.6	07.6	345.1	0000.0	156.5	0563.1	08.3	173.1	
08/31	04:59	01	1475.0	07.8	345.2	0000.0	158.4	0513.7	08.8	173.4	
		AVERAGE	1529.5	07.4	344.6	0000.0	157.7	0540.2	08.4	173.4	GOOD HOUR
08/31	05:14	01	1453.6	07.8	345.8	0000.0	158.1	0486.2	08.7	173.4	
08/31	05:29	01	1451.0	07.6	345.5	0000.0	157.7	0452.6	08.8	172.8	
08/31	05:44	01	1285.7	08.7	347.6	0000.0	156.3	0392.8	10.0	173.5	
08/31	05:59	01	1191.7	09.5	348.2	0000.0	159.7	0390.4	10.1	175.1	
		AVERAGE	1345.5	08.4	346.8	0000.0	158.0	0430.5	09.4	173.7	GOOD HOUR
08/31	06:14	01	1179.0	08.7	346.8	0000.0	158.5	0340.8	09.8	174.2	
08/31	06:29	01	1199.7	07.9	345.9	0000.0	160.9	0391.8	08.3	176.1	
08/31	06:44	01	1231.0	08.1	344.9	0000.0	162.0	0393.5	08.6	176.6	
08/31	06:59	01	1321.6	07.5	346.0	0000.0	161.4	0395.6	08.5	177.1	
		AVERAGE	1232.8	08.1	345.9	0000.0	160.7	0380.4	08.8	176.0	GOOD HOUR
08/31	07:14	01	1397.0	07.1	347.3	0000.0	161.8	0439.4	08.0	176.8	
08/31	07:29	01	1339.0	07.2	346.7	0000.0	163.3	0450.3	08.0	177.0	
08/31	07:44	01	1423.6	07.3	348.0	0000.0	162.5	0510.7	07.4	177.5	
08/31	07:59	01	1339.6	07.5	347.2	0000.0	162.4	0466.5	07.9	176.7	
		AVERAGE	1374.8	07.3	347.3	0000.0	162.5	0466.7	07.8	177.0	GOOD HOUR
08/31	08:14	01	1387.6	07.6	346.8	0000.0	162.1	0424.6	08.1	175.6	
08/31	08:29	01	1352.3	07.7	346.6	0000.0	199.1	0439.5	07.8	181.0	
08/31	08:44	01	1259.0	07.8	346.0	0000.0	176.8	0678.8	08.1	185.4	
08/31	08:59	01	1241.7	08.1	345.7	0000.0	160.6	0398.6	08.2	185.9	
		AVERAGE	1310.1	07.8	346.3	0000.0	174.7	0485.4	08.1	182.0	GOOD HOUR
08/31	09:14	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/31	09:29	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/31	09:44	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/31	09:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
08/31	10:14	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/31	10:29	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/31	10:44	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
08/31	10:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
08/31	11:12	01	1145.0	09.9	342.6	0000.0	184.8	0490.2	10.9	195.4	
08/31	11:27	01	1173.0	09.3	336.1	0000.0	159.4	0346.0	10.2	186.0	
08/31	11:42	01	1397.7	06.2	337.7	0000.0	151.6	0238.5	07.8	173.6	
08/31	11:57	01	1374.3	06.5	335.1	0000.0	146.0	0186.5	08.1	166.2	
		AVERAGE	1272.5	08.0	337.9	0000.0	160.4	0315.3	09.3	180.3	GOOD HOUR
08/31	12:12	01	1271.7	08.4	335.0	0000.0	146.3	0185.2	09.7	167.4	
08/31	12:27	01	1339.6	07.7	337.7	0000.0	147.8	0192.4	09.2	168.0	
08/31	12:42	01	1333.0	07.4	338.5	0000.0	149.2	0206.3	08.8	167.1	

08/31	12:57 01	1357.0	07.2	338.8	0000.0	150.5	0224.7	08.6	168.2		
	AVERAGE	1325.3	07.7	337.5	0000.0	148.5	0202.2	09.1	167.7	GOOD HOUR	
08/31	13:12 01	1365.0	07.2	339.3	0000.0	150.5	0232.0	08.6	168.8		
08/31	13:27 01	1304.3	07.7	344.1	0000.0	152.0	0355.1	09.1	170.3		
08/31	13:42 01	1379.7	06.6	343.0	0000.0	151.9	0263.9	08.3	169.8		
08/31	13:57 01	1391.0	06.6	341.3	0000.0	152.7	0286.9	07.9	169.3		
	AVERAGE	1360.0	07.0	341.9	0000.0	151.8	0284.5	08.5	169.6	GOOD HOUR	
08/31	14:12 01	1369.0	06.6	340.7	0000.0	152.5	0268.8	08.0	169.2		
08/31	14:27 01	1397.0	06.6	340.8	0000.0	152.9	0258.3	08.0	169.8		
08/31	14:42 01	1475.0	06.5	341.3	0000.0	154.7	0270.9	08.1	171.1		
08/31	14:57 01	1485.0	06.2	341.4	0000.0	153.5	0319.0	07.8	170.7		
	AVERAGE	1444.0	06.5	341.0	0000.0	153.4	0279.3	08.0	170.2	GOOD HOUR	
08/31	15:12 01	1569.0	05.9	341.8	0000.0	154.2	0352.2	07.5	170.4		
08/31	15:27 01	1539.0	06.3	340.4	0000.0	154.1	0367.4	07.8	170.6		
08/31	15:42 01	1552.3	06.3	049.5	0000.0	156.2	0400.6	07.9	172.5		
08/31	15:57 01	1498.3	06.1	343.1	0000.0	155.6	0387.3	07.8	172.6		
	AVERAGE	1539.7	06.2	268.7	0000.0	155.0	0376.9	07.8	171.5	GOOD HOUR	
08/31	16:12 01	1569.6	06.0	344.1	0000.0	168.9	0668.7	07.9	178.6		
08/31	16:27 01	1409.6	07.1	345.3	0000.0	159.1	0458.7	08.7	178.6		
08/31	16:42 01	1381.0	07.0	345.5	0000.0	169.7	0530.2	08.6	182.9		
08/31	16:57 01	1451.6	06.0	345.7	0000.0	156.8	0381.5	07.6	174.8		
	AVERAGE	1452.9	06.5	345.2	0000.0	163.6	0509.8	08.2	178.7	GOOD HOUR	
08/31	17:12 01	1305.0	07.1	350.0	0000.0	156.7	0357.2	08.6	174.7		
08/31	17:27 01	1272.3	06.6	348.0	0000.0	155.8	0291.3	08.5	173.4		
08/31	17:42 01	1083.7	06.1	347.7	0000.0	157.0	0261.1	07.4	173.5		
08/31	17:57 01	0917.1	06.4	394.4	0000.0	157.6	0246.9	08.3	174.2		
	AVERAGE	1144.5	06.6	360.0	0000.0	156.8	0289.1	08.2	174.0	GOOD HOUR	
08/31	18:12 01	0862.5	06.4	346.0	0000.0	157.9	0243.7	08.5	174.9		
08/31	18:27 01	0873.1	06.0	345.2	0000.0	159.2	0226.4	08.0	174.4		
08/31	18:42 01	0875.8	05.9	345.0	0000.0	159.6	0222.8	07.7	175.6		
08/31	18:57 01	0867.8	05.4	345.7	0000.0	160.8	0212.8	07.5	176.4		
	AVERAGE	0869.8	05.9	345.5	0000.0	159.4	0226.4	07.9	175.3	GOOD HOUR	
08/31	19:12 01	0877.8	05.2	350.7	0000.0	172.5	0211.9	07.1	181.5		
08/31	19:27 01	0855.8	05.4	350.5	0000.0	190.6	0395.8	07.3	201.9		
08/31	19:42 01	0881.1	05.7	343.9	0000.0	173.7	0367.8	07.7	198.5		
08/31	19:57 01	0913.7	05.5	345.8	0000.0	168.4	0273.4	07.8	188.1		
	AVERAGE	0882.1	05.5	347.7	0000.0	176.3	0312.2	07.5	192.5	GOOD HOUR	
08/31	20:12 01	0929.1	05.4	347.8	0000.0	165.9	0239.3	07.7	184.5		
08/31	20:27 01	0925.8	05.5	347.3	0000.0	163.8	0201.8	08.0	181.3		
08/31	20:42 01	0921.8	06.4	350.4	0000.0	163.8	0204.4	08.7	180.5		
08/31	20:57 01	0929.8	06.6	350.1	0000.0	163.2	0200.5	08.3	179.5		
	AVERAGE	0926.6	06.0	348.9	0000.0	164.2	0211.5	08.2	181.4	GOOD HOUR	

08/31	21:12 01	0933.8	07.0	350.8	0000.0	181.7	0198.7	08.5	178.7		
08/31	21:27 01	0947.1	06.6	347.3	0000.0	161.0	0184.7	08.3	176.5		
08/31	21:42 01	0953.1	05.8	346.8	0000.0	160.9	0153.6	07.8	176.2		
08/31	21:57 01	0845.8	07.8	349.3	0000.0	156.4	0108.9	09.6	172.8		
	AVERAGE	0920.0	06.8	348.5	0000.0	165.0	0161.5	08.6	176.1	GOOD HOUR	
08/31	22:12 01	0936.4	06.5	346.2	0000.0	157.0	0119.6	08.1	173.0		
08/31	22:27 01	0809.1	08.2	345.6	0000.0	156.6	0105.1	10.4	172.4		
08/31	22:42 01	0801.1	08.4	346.4	0000.0	155.8	0099.5	10.3	172.9		
08/31	22:57 01	0878.4	06.6	346.0	0000.0	155.5	0119.2	08.6	172.4		
	AVERAGE	0856.3	07.4	346.1	0000.0	156.2	0110.9	09.4	172.7	GOOD HOUR	
08/31	23:12 01	0837.1	06.8	345.7	0000.0	157.0	0105.8	09.3	173.5		
08/31	23:27 01	0853.8	05.8	344.4	0000.0	153.8	0106.9	08.8	171.3		
08/31	23:42 01	0877.8	05.6	346.4	0000.0	156.2	0113.0	08.5	172.1		
08/31	23:57 01	0859.1	05.8	345.5	0000.0	154.1	0168.5	08.5	171.5		
	AVERAGE	0857.0	06.0	345.5	0000.0	155.3	0123.6	08.8	172.1	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:59	12.9E+07	20.4E+05	33.6E-01	00.0E-02	95.4E-02	100	71.6	GOOD HOUR
01:59	12.9E+07	20.6E+05	32.3E-01	00.0E-02	88.8E-02	100	72.5	GOOD HOUR
02:59	13.2E+07	18.8E+05	35.3E-01	00.0E-02	14.5E-01	100	59.1	GOOD HOUR
03:59	12.7E+07	19.0E+05	38.1E-01	00.0E-02	11.4E-01	100	70.1	GOOD HOUR
04:59	94.9E+06	14.5E+05	38.7E-01	00.0E-02	14.7E-01	100	62.0	GOOD HOUR
05:59	81.0E+06	13.3E+05	36.7E-01	00.0E-02	12.8E-01	100	65.2	GOOD HOUR
06:59	81.0E+06	12.9E+05	32.7E-01	00.0E-02	10.7E-01	100	67.2	GOOD HOUR
07:59	12.9E+07	19.5E+05	34.4E-01	00.0E-02	12.2E-01	100	64.6	GOOD HOUR
08:59	12.9E+07	20.2E+05	34.1E-01	00.0E-02	12.9E-01	100	62.2	GOOD HOUR
09:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
11:57	11.1E+07	17.5E+05	33.5E-01	00.0E-02	92.2E-02	100	72.5	GOOD HOUR
12:57	11.5E+07	17.9E+05	34.1E-01	00.0E-02	58.2E-02	100	82.9	GOOD HOUR
13:57	12.2E+07	18.0E+05	33.4E-01	00.0E-02	78.0E-02	100	76.6	GOOD HOUR
14:57	12.4E+07	17.7E+05	34.1E-01	00.0E-02	73.6E-02	100	78.4	GOOD HOUR
15:57	12.9E+07	17.9E+05	35.6E-01	00.0E-02	97.6E-02	100	72.5	GOOD HOUR
16:57	12.4E+07	17.7E+05	34.4E-01	00.0E-02	13.7E-01	100	60.3	GOOD HOUR
17:57	12.2E+07	17.4E+05	27.2E-01	00.0E-02	77.6E-02	100	71.5	GOOD HOUR
18:57	12.7E+07	17.4E+05	19.8E-01	00.0E-02	59.5E-02	100	70.0	GOOD HOUR
19:57	13.1E+07	17.4E+05	19.5E-01	00.0E-02	79.2E-02	100	59.3	GOOD HOUR
20:57	13.1E+07	18.0E+05	21.2E-01	00.0E-02	56.6E-02	100	73.2	GOOD HOUR
21:57	12.7E+07	18.4E+05	22.2E-01	00.0E-02	44.5E-02	100	80.0	GOOD HOUR
22:57	12.0E+07	18.2E+05	21.6E-01	00.0E-02	32.7E-02	100	84.9	GOOD HOUR
23:57	12.2E+07	16.8E+05	19.6E-01	00.0E-02	34.7E-02	100	82.3	GOOD HOUR
		AVERAGE	30.6E-01		90.7E-02		70.9	

GOOD DAY

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2250-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 257)
PAGE NUMBER
A-26
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 1,1980"

SEPT 1,1980

ENTER FILE NAME
? IN9010
ENTER OUTPUT FILE NAME
? OUT9010
ENTER PROCESS DATA FILE NAME
? P9010
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	08840	00000	BT	NO
0200	08650	00000	BT	NO
0300	08100	00000	BT	NO
0400	08290	00000	BT	NO
0500	08100	00000	BT	NO
0600	08840	00000	BT	NO
0700	09020	00000	BT	NO
0800	07920	00000	BT	NO
0900	11050	00000	BT	NO
1000	10630	00000	BT	NO
1100	11050	00000	BT	NO
1200	10210	00000	BT	NO
1300	09380	00000	BT	NO

1400	10840	00000	BT	NO
1500	10000	00000	BT	NO
1600	09790	00000	BT	NO
1700	10630	00000	BT	NO
1800	10420	00000	BT	NO
1900	09380	00000	BT	NO
2000	10000	00000	BT	NO
2100	10840	00000	BT	NO
2200	11250	00000	BT	NO
2300	11250	00000	BT	NO
2400	10630	00000	BBT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/01	00:12	01	0895.1	05.9	346.2	0000.0	155.3	0130.7	08.3	173.3	
09/01	00:27	01	0927.7	06.1	346.1	0000.0	156.7	0145.0	08.1	174.2	
09/01	00:42	01	0914.4	06.2	344.1	0000.0	156.1	0147.8	08.1	172.8	
09/01	00:57	01	0944.4	06.3	347.7	0000.0	155.2	0149.0	08.6	173.0	
		AVERAGE	0920.4	06.1	346.0	0000.0	155.8	0143.1	08.3	173.3	GOOD HOUR
09/01	01:12	01	0947.1	06.4	348.3	0000.0	157.9	0171.9	08.2	174.9	
09/01	01:27	01	0988.4	06.6	347.7	0000.0	154.7	0473.2	08.0	177.4	
09/01	01:42	01	0976.4	06.6	345.2	0000.0	156.8	0308.4	07.8	177.4	
09/01	01:57	01	1013.7	06.7	346.8	0000.0	158.1	0300.5	08.1	178.1	
		AVERAGE	0981.4	06.6	347.0	0000.0	156.9	0313.5	08.0	176.9	GOOD HOUR
09/01	02:12	01	0993.1	06.7	346.1	0000.0	157.3	0280.1	07.9	176.5	
09/01	02:27	01	1006.4	06.6	345.8	0000.0	156.9	0254.5	07.7	176.2	
09/01	02:42	01	0986.4	06.7	345.5	0000.0	164.1	0258.1	08.0	179.6	
09/01	02:57	01	0995.8	05.6	346.0	0000.0	181.6	0390.3	07.8	196.6	
		AVERAGE	0995.4	06.4	345.9	0000.0	165.0	0295.8	07.9	182.2	GOOD HOUR
09/01	03:12	01	1021.7	05.8	339.9	0000.0	162.0	0351.0	07.7	187.2	
09/01	03:27	01	0919.1	06.4	339.1	0000.0	158.0	0320.5	08.6	179.7	
09/01	03:42	01	0831.8	07.3	340.4	0000.0	169.6	0317.6	09.4	184.0	
09/01	03:57	01	0759.8	07.6	340.3	0000.0	156.3	0255.9	10.1	179.1	
		AVERAGE	0883.1	06.8	339.9	0000.0	161.5	0311.3	09.0	182.5	GOOD HOUR
09/01	04:12	01	0761.1	07.7	341.3	0000.0	155.9	0215.0	10.1	177.4	

09/01	04:27 01	0620.5	07.8	340.8	0000.0	155.0	0186.8	11.3	177.1		
09/01	04:42 01	0591.2	07.9	336.6	0000.0	153.0	0139.4	12.4	174.3		
09/01	04:57 01	0628.5	08.1	336.7	0000.0	156.1	0188.2	11.9	176.8		
	AVERAGE	0650.3	07.9	338.9	0000.0	155.0	0187.4	11.4	176.4	GOOD HOUR	
09/01	05:12 01	0627.8	07.7	339.3	0000.0	156.9	0196.2	12.5	177.6		
09/01	05:27 01	0702.5	09.5	338.6	0000.0	154.7	0207.1	11.7	175.2		
09/01	05:42 01	0757.8	09.3	338.6	0000.0	153.4	0216.7	11.6	174.2		
09/01	05:57 01	0763.8	09.2	338.7	0000.0	153.6	0217.4	11.7	173.8		
	AVERAGE	0713.0	08.9	338.8	0000.0	154.7	0209.4	11.9	175.2	GOOD HOUR	
09/01	06:12 01	0789.8	09.3	336.9	0000.0	151.0	0227.7	11.6	172.3		
09/01	06:27 01	0771.8	09.4	338.1	0000.0	155.8	0241.5	11.9	172.7		
09/01	06:42 01	0771.8	09.5	339.2	0000.0	152.8	0252.4	11.7	173.0		
09/01	06:57 01	0777.8	09.6	338.6	0000.0	153.6	0246.5	11.7	172.1		
	AVERAGE	0777.8	09.5	338.2	0000.0	153.3	0242.0	11.7	172.5	GOOD HOUR	
09/01	07:12 01	0763.1	09.7	338.1	0000.0	152.2	0240.3	11.9	170.6		
09/01	07:27 01	0838.5	09.8	342.6	0000.0	155.9	0360.0	10.4	178.4		
09/01	07:42 01	1027.7	09.8	342.4	0000.0	162.3	0499.4	09.1	190.2		
09/01	07:57 01	1018.4	09.9	343.4	0000.0	156.6	0441.0	09.6	178.0		
	AVERAGE	0911.9	09.8	341.6	0000.0	156.8	0385.2	10.3	179.3	GOOD HOUR	
09/01	08:12 01	1070.4	10.0	342.2	0000.0	154.9	0390.6	08.7	176.3		
09/01	08:27 01	1151.0	09.7	341.5	0000.0	155.4	0352.5	08.1	175.2		
09/01	08:42 01	1151.0	06.3	339.2	0000.0	155.7	0342.9	07.8	173.5		
09/01	08:57 01	1072.4	05.7	341.9	0000.0	152.0	0384.8	07.4	172.7		
	AVERAGE	1111.2	07.9	341.2	0000.0	154.5	0367.7	08.0	174.4	GOOD HOUR	
09/01	09:12 01	0676.4	08.9	337.7	0000.0	153.6	0368.6	10.2	172.8		
09/01	09:27 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/01	09:42 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/01	09:51 01	0493.8	18.7	339.2	0000.0	153.3	0855.2	09.2	173.5		
	AVERAGE	0685.1	13.8	338.4	0000.0	153.5	0611.9	09.7	173.2	GOOD HOUR	
09/01	10:06 01	1027.7	08.0	338.9	0000.0	152.3	0415.0	08.4	171.5		
09/01	10:21 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/01	10:36 01	1009.7	08.0	335.9	0000.0	148.9	0394.8	08.3	166.6		
09/01	10:51 01	1141.7	08.0	335.8	0000.0	156.4	0430.7	08.4	167.5		
	AVERAGE	1059.7	08.0	336.9	0000.0	152.5	0413.5	08.4	169.2	GOOD HOUR	
09/01	11:06 01	1192.4	08.1	330.3	0000.0	153.6	0874.6	08.9	177.6		
09/01	11:21 01	1117.0	09.0	329.6	0000.0	152.9	0875.1	09.4	180.0		
09/01	11:36 01	1190.4	08.8	331.3	0000.0	152.9	0875.6	09.3	174.8		
09/01	11:51 01	1259.0	08.1	326.9	0000.0	139.9	0876.0	08.8	165.2		
	AVERAGE	1189.7	08.5	329.5	0000.0	149.8	0875.3	09.1	174.4	GOOD HOUR	
09/01	12:06 01	1177.0	08.2	012.0	0000.0	147.2	0453.8	09.7	171.9		
09/01	12:21 01	1141.0	09.1	330.4	0000.0	147.1	0422.2	09.7	168.3		
09/01	12:36 01	1133.0	09.6	328.4	0000.0	143.9	0394.6	10.1	165.6		

EPA Form 2350-4 (4-80) (PREVIOUSLY CIN, EPA FORM 291)
TYPING GUIDE SHEET

09/01	12:51 01	1179.7	08.7	336.6	0000.0	150.6	0482.9	09.7	170.7		
	AVERAGE	1157.7	08.9	251.9	0000.0	147.2	0438.4	09.8	169.1	GOOD HOUR	
09/01	13:06 01	1277.0	07.8	337.3	0000.0	149.4	0608.7	08.8	170.5		
09/01	13:21 01	1218.4	07.7	336.2	0000.0	150.3	0605.4	08.8	170.3		
09/01	13:36 01	1291.0	07.1	335.8	0000.0	150.0	0583.0	08.1	169.0		
09/01	13:51 01	1356.3	06.8	335.7	0000.0	148.0	0461.2	07.9	168.7		
	AVERAGE	1285.7	07.4	336.3	0000.0	149.4	0564.6	08.4	169.6	GOOD HOUR	
09/01	14:06 01	1293.6	07.6	335.8	0000.0	149.9	0392.4	08.7	168.1		
09/01	14:21 01	1158.4	07.8	337.2	0000.0	150.9	0347.3	09.1	168.9		
09/01	14:36 01	1241.0	08.3	335.4	0000.0	150.6	0364.4	09.3	168.1		
09/01	14:51 01	1164.4	09.1	335.2	0000.0	150.1	0318.3	10.1	169.4		
	AVERAGE	1214.3	08.2	335.9	0000.0	150.4	0355.6	09.3	168.6	GOOD HOUR	
09/01	15:06 01	1276.3	08.2	335.3	0000.0	147.8	0391.0	09.3	167.2		
09/01	15:21 01	1218.4	08.4	334.8	0000.0	150.9	0398.4	09.3	168.7		
09/01	15:36 01	1301.7	08.0	462.2	0000.0	150.1	0434.6	09.0	168.7		
09/01	15:51 01	1333.6	07.8	335.8	0000.0	150.4	0418.1	08.9	168.2		
	AVERAGE	1282.5	08.1	367.0	0000.0	149.8	0410.5	09.1	168.2	GOOD HOUR	
09/01	16:06 01	1348.3	08.0	335.3	0000.0	149.8	0395.4	08.8	168.6		
09/01	16:21 01	1253.0	07.8	336.2	0000.0	149.5	0381.2	08.7	167.5		
09/01	16:36 01	1351.0	07.0	336.1	0000.0	148.4	0427.4	07.9	167.4		
09/01	16:51 01	1374.3	07.2	336.1	0000.0	148.9	0562.9	07.9	168.0		
	AVERAGE	1331.7	07.5	335.9	0000.0	149.2	0441.7	08.3	167.9	GOOD HOUR	
09/01	17:06 01	1331.0	07.6	335.4	0000.0	151.0	0526.5	08.6	168.0		
09/01	17:21 01	1246.4	07.6	337.4	0000.0	154.3	0574.2	08.7	171.2		
09/01	17:36 01	1124.4	08.8	337.4	0000.0	152.9	0924.8	08.9	172.1		
09/01	17:51 01	1137.0	08.5	338.1	0000.0	167.9	0618.0	09.2	177.7		
	AVERAGE	1209.7	08.1	337.1	0000.0	156.5	0660.9	08.9	172.2	GOOD HOUR	
09/01	18:06 01	1135.0	08.6	339.9	0000.0	158.0	0653.0	09.3	178.5		
09/01	18:21 01	1056.4	09.2	341.5	0000.0	165.9	0395.0	09.6	173.8		
09/01	18:36 01	0989.7	09.9	341.5	0000.0	160.8	0348.2	10.8	176.4		
09/01	18:51 01	0971.1	09.8	341.7	0000.0	181.6	0573.6	10.0	185.7		
	AVERAGE	1038.1	09.4	341.2	0000.0	166.6	0492.5	09.9	178.6	GOOD HOUR	
09/01	19:06 01	1143.0	08.4	335.8	0000.0	172.0	0641.6	08.3	196.1		
09/01	19:21 01	1017.0	09.2	337.6	0000.0	158.2	0621.0	09.3	179.4		
09/01	19:36 01	1109.0	08.4	337.0	0000.0	167.1	0781.8	08.4	180.4		
09/01	19:51 01	1283.7	06.9	339.9	0000.0	166.8	1021.2	08.0	183.7		
	AVERAGE	1138.2	08.2	337.6	0000.0	166.0	0766.4	08.5	184.9	GOOD HOUR	
09/01	20:06 01	0967.8	10.1	337.0	0000.0	162.9	0692.6	11.2	178.7		
09/01	20:21 01	1202.4	08.1	339.2	0000.0	208.4	1024.5	08.7	194.8		
09/01	20:36 01	1060.4	10.1	339.6	0000.0	170.7	0489.4	09.7	193.4		
09/01	20:51 01	1269.0	07.4	340.2	0000.0	164.5	0368.4	07.5	182.0		
	AVERAGE	1124.9	08.9	339.0	0000.0	176.6	0643.7	09.3	187.2	GOOD HOUR	

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EPA Form 2350-4 (4-80) (PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
A-30
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DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TYPING GUIDE SHEET

09/01	21:06	01	1279.0	07.8	339.5	0000.0	171.5	0663.0	08.2	181.7		
09/01	21:21	01	1313.7	07.3	338.3	0000.0	178.1	0571.6	07.9	189.4		
09/01	21:36	01	1338.3	07.2	339.4	0000.0	163.5	0319.6	07.9	180.8		
09/01	21:51	01	1315.7	05.2	339.5	0000.0	160.4	0279.4	07.8	176.8		
		AVERAGE	1311.7	06.9	339.2	0000.0	168.4	0458.4	08.0	182.2	GOOD HOUR	
09/01	22:06	01	1291.0	07.5	339.1	0000.0	160.0	0261.0	08.0	175.0		
09/01	22:21	01	1205.7	08.1	338.2	0000.0	157.9	0214.0	08.0	171.4		
09/01	22:36	01	1191.7	08.2	339.1	0000.0	156.4	0199.8	08.8	170.6		
09/01	22:51	01	1199.0	08.1	339.2	0000.0	155.9	0159.2	08.6	170.1		
		AVERAGE	1221.8	08.0	338.9	0000.0	157.5	0208.5	08.4	171.8	GOOD HOUR	
09/01	23:06	01	1269.0	07.1	338.8	0000.0	156.1	0147.4	07.9	170.2		
09/01	23:21	01	1065.1	09.1	336.2	0000.0	155.3	0145.6	09.3	169.1		
09/01	23:36	01	1081.1	09.3	339.6	0000.0	156.1	0154.1	09.8	171.2		
09/01	23:51	01	1010.4	09.8	338.1	0000.0	155.7	0114.2	10.4	169.9		
		AVERAGE	1106.4	08.8	338.2	0000.0	156.3	0140.3	09.4	170.1	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:57	11.1E+07	15.3E+05	21.2E-01	00.0E-02	38.6E-02	100	81.8	GOOD HOUR
01:57	10.8E+07	15.5E+05	23.3E-01	00.0E-02	83.0E-02	100	64.5	GOOD HOUR
02:57	10.1E+07	14.3E+05	23.4E-01	00.0E-02	77.2E-02	100	67.0	GOOD HOUR
03:57	10.4E+07	15.1E+05	21.3E-01	00.0E-02	88.7E-02	100	58.3	GOOD HOUR
04:57	10.1E+07	16.0E+05	17.0E-01	00.0E-02	67.4E-02	100	60.4	GOOD HOUR
05:57	11.1E+07	18.9E+05	20.3E-01	00.0E-02	79.0E-02	100	61.0	GOOD HOUR
06:57	11.3E+07	20.2E+05	23.1E-01	00.0E-02	89.9E-02	100	61.2	GOOD HOUR
07:57	99.0E+06	18.3E+05	28.0E-01	00.0E-02	12.3E-01	100	56.0	GOOD HOUR
08:57	13.8E+07	21.8E+05	29.2E-01	00.0E-02	97.1E-02	100	66.7	GOOD HOUR
09:51	13.3E+07	38.4E+05	32.9E-01	00.0E-02	18.6E-01	100	43.4	GOOD HOUR
10:51	13.8E+07	22.0E+05	28.0E-01	00.0E-02	11.2E-01	100	59.8	GOOD HOUR
11:51	12.8E+07	21.1E+05	32.7E-01	00.0E-02	25.3E-01	100	22.7	GOOD HOUR
12:51	11.7E+07	20.1E+05	32.9E-01	00.0E-02	13.5E-01	100	59.1	GOOD HOUR
13:51	13.6E+07	20.5E+05	32.3E-01	00.0E-02	15.4E-01	100	52.4	GOOD HOUR
14:51	12.5E+07	20.2E+05	32.6E-01	00.0E-02	10.4E-01	100	67.9	GOOD HOUR
15:51	12.2E+07	19.6E+05	34.1E-01	00.0E-02	11.9E-01	100	65.2	GOOD HOUR
16:51	13.3E+07	20.4E+05	33.9E-01	00.0E-02	12.0E-01	100	64.7	GOOD HOUR
17:51	13.0E+07	20.9E+05	32.3E-01	00.0E-02	18.7E-01	100	42.1	GOOD HOUR
18:51	11.7E+07	20.9E+05	30.7E-01	00.0E-02	15.3E-01	100	50.2	GOOD HOUR
19:51	12.5E+07	20.2E+05	30.6E-01	00.0E-02	21.1E-01	100	31.2	GOOD HOUR
20:51	13.6E+07	23.2E+05	32.0E-01	00.0E-02	18.9E-01	100	41.1	GOOD HOUR
21:51	14.1E+07	20.6E+05	31.9E-01	00.0E-02	12.1E-01	100	62.2	GOOD HOUR
22:51	14.1E+07	22.3E+05	32.2E-01	00.0E-02	56.6E-02	100	82.4	GOOD HOUR
23:51	13.3E+07	22.6E+05	31.2E-01	00.0E-02	41.4E-02	100	86.7	GOOD HOUR
		AVERAGE	28.6E-01		12.0E-01		58.7	

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PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND,MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT  2,1980"
                                                  SEPT  2,1980
ENTER FILE
           ILLEGAL COMMAND.
 NAME
 ? IN9020
ENTER OUTPUT FILE NAME
 ? OUT9020
ENTER PROCESS DATA FILE NAME
 ? P9020
ENTER HEAT INPUT CONTENT
 ? 12500
```

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	10840	00000	BT	NO
0200	11460	00000	BT	NO
0300	11250	00000	BT	NO
0400	11250	00000	BT	NO
0500	00000	00000	BT	NO
0600	00000	00000	BT	NO
0700	00000	00000	BT	NO
0800	11050	00000	BT	NO
0900	10000	00000	BT	NO
1000	09800	00000	BT	NO
1100	09800	00000	BT	NO
1200	10190	00000	BT	NO

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DROPPED HEAD; BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BEGIN LAST LINE OF TEXT
3/8"
PAGE NUMBER
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 257)
TYPING GUIDE SHEET

1300	10190	00000	BT	NO
1400	09610	00000	BT	NO
1500	10190	00000	BT	NO
1600	10380	00000	BT	NO
1700	10380	00000	BT	NO
1800	10000	00000	BT	NO
1900	10190	00000	BT	NO
2000	10000	00000	BT	NO
2100	10000	00000	BT	NO
2200	10190	00000	BT	NO
2300	09610	00000	BT	NO
2400	09230	00000	BT	NO

DATE	TIME	CD	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/02	00:06	01	0979.5	09.9	337.0	0000.0	170.8	0247.4	10.6	157.6	
09/02	00:21	01	1101.9	08.7	337.4	0000.0	171.5	0241.8	09.0	156.8	
09/02	00:36	01	1112.5	09.1	336.4	0000.0	170.9	0250.6	09.5	156.3	
09/02	00:51	01	1057.4	10.9	335.8	0000.0	170.9	0204.4	10.9	156.4	
		AVERAGE	1062.8	09.6	336.7	0000.0	171.0	0236.1	10.0	156.8	GOOD HOUR
09/02	01:06	01	0911.7	10.4	335.8	0000.0	171.9	0190.1	10.9	156.3	
09/02	01:21	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	01:36	01	1038.7	08.3	338.0	0000.0	172.4	0307.9	09.0	157.6	
09/02	01:51	01	1150.5	07.3	337.7	0000.0	171.3	0259.4	07.9	158.1	
		AVERAGE	1033.6	08.7	337.2	0000.0	171.9	0252.5	09.3	157.3	GOOD HOUR
09/02	02:06	01	1093.9	08.0	339.2	0000.0	171.6	0272.3	08.5	158.4	
09/02	02:21	01	0754.1	12.0	337.0	0000.0	171.8	0196.8	12.0	158.2	
09/02	02:36	01	0669.7	12.9	338.5	0000.0	171.7	0146.8	13.2	157.0	
09/02	02:51	01	0798.7	11.8	334.4	0000.0	170.7	0278.9	11.8	155.7	
		AVERAGE	0829.1	11.2	337.3	0000.0	171.5	0223.7	11.4	157.3	GOOD HOUR
09/02	03:06	01	0883.8	10.6	332.4	0000.0	170.1	0323.5	11.3	154.8	
09/02	03:21	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	03:36	01	1254.2	06.8	337.9	0000.0	178.9	0662.5	07.7	175.5	
09/02	03:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1069.0	08.7	335.2	0000.0	174.5	0493.0	09.5	165.2	GOOD HOUR

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3/8"
EPA Form 2050-4 (4-90)
(PREVIOUSLY CIN, EPA FORM 257)
PAGE NUMBER
A-33
CENTER OF PAGE
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA

09/02	04:06 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	04:21 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	04:36 01	1284.8	10.6	336.8	0000.0	179.3	0244.1	11.0	152.8	
09/02	04:51 01	1408.5	10.6	336.8	0000.0	176.6	0343.0	10.8	156.9	
	AVERAGE	1346.6	10.6	336.8	0000.0	178.0	0293.5	10.9	154.9	GOOD HOUR
09/02	05:06 01	1562.1	10.1	342.2	0000.0	176.8	0489.4	10.5	158.0	
09/02	05:21 01	1600.7	09.3	340.6	0000.0	179.5	0479.5	09.6	155.6	
09/02	05:36 01	1705.7	08.2	339.9	0000.0	173.2	0534.0	09.0	155.4	
09/02	05:51 01	1446.4	09.5	338.8	0000.0	172.1	0369.2	09.9	154.0	
	AVERAGE	1578.7	09.3	340.4	0000.0	173.9	0468.0	09.8	155.8	GOOD HOUR
09/02	06:06 01	1393.2	09.7	338.8	0000.0	171.9	0427.9	10.1	155.1	
09/02	06:21 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	06:36 01	1592.0	08.3	337.9	0000.0	171.2	0606.1	09.2	154.2	
09/02	06:51 01	1631.9	07.9	336.6	0000.0	171.3	0696.0	08.8	153.5	
	AVERAGE	1539.0	08.6	337.8	0000.0	171.5	0576.7	09.4	154.5	GOOD HOUR
09/02	07:06 01	1608.6	08.0	336.9	0000.0	171.6	0728.4	08.3	155.2	
09/02	07:21 00	0000.0	00.0	000.0	0000.0	171.7	0000.0	00.0	000.0	
09/02	07:36 01	1817.4	08.0	339.2	0000.0	170.1	0857.3	08.3	154.7	
09/02	07:51 01	1785.5	08.1	338.6	0000.0	169.0	0784.3	08.5	152.5	
	AVERAGE	1737.2	08.0	338.2	0000.0	227.5	0790.0	08.4	154.1	GOOD HOUR
09/02	08:06 01	1686.4	09.0	338.6	0000.0	168.9	0686.5	09.0	153.7	
09/02	08:21 01	1766.2	07.9	335.3	0000.0	164.9	0627.0	08.4	150.9	
09/02	08:36 01	1691.8	07.2	339.5	0000.0	167.0	0591.7	07.8	151.6	
09/02	08:51 01	1713.7	06.4	337.8	0000.0	165.6	0646.4	07.3	147.2	
	AVERAGE	1714.5	07.6	337.8	0000.0	166.6	0637.9	08.1	150.9	GOOD HOUR
09/02	09:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	09:15 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	09:45 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	10:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/02	10:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	10:24 01	1050.7	08.7	338.4	0000.0	230.6	0871.8	09.1	223.0	
09/02	10:39 01	1113.7	08.2	337.4	0000.0	217.4	0871.8	08.4	183.5	
09/02	10:54 01	1135.2	08.1	329.9	0000.0	200.2	0812.0	08.3	178.1	
	AVERAGE	1102.5	08.3	335.2	0000.0	216.1	0851.9	08.6	194.9	GOOD HOUR
09/02	11:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	11:24 01	1178.4	07.7	333.7	0000.0	183.9	0347.7	08.2	165.3	
09/02	11:39 01	1196.3	07.4	333.9	0000.0	179.4	0307.9	08.0	161.4	
09/02	11:54 01	1233.6	07.1	335.8	0000.0	177.9	0307.9	07.8	162.7	
	AVERAGE	1202.8	07.4	334.5	0000.0	180.4	0321.2	08.0	163.1	GOOD HOUR
09/02	12:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN, EPA FORM 242)
PAGE NUMBER
A-34
TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD, BEGIN SECTIONS HERE
CENTER OF PAGE
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA

09/02	12:24 01	1222.9	07.8	333.2	0000.0	178.6	0605.0	08.4	167.3	
09/02	12:39 01	0888.9	07.4	331.6	0000.0	174.5	0461.8	08.1	159.2	
09/02	12:54 01	1187.7	07.5	335.4	0000.0	176.8	0400.5	08.2	162.1	
	AVERAGE	1099.8	07.6	333.4	0000.0	176.6	0489.1	08.2	162.9	GOOD HOUR
09/02	13:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	13:24 01	1002.2	09.3	340.9	0000.0	178.9	0320.1	10.1	166.1	
09/02	13:39 01	0989.5	09.2	338.8	0000.0	180.2	0425.8	09.7	170.5	
09/02	13:54 01	1108.6	08.1	339.4	0000.0	178.9	0297.3	08.6	165.5	
	AVERAGE	1033.4	08.9	339.7	0000.0	179.3	0347.7	09.5	167.4	GOOD HOUR
09/02	14:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	14:24 01	1602.7	08.1	336.0	0000.0	181.5	0621.3	08.3	166.3	
09/02	14:39 01	1844.0	07.3	336.6	0000.0	180.2	0765.9	07.5	165.7	
09/02	14:54 01	1671.1	08.8	337.0	0000.0	172.3	0731.2	09.0	157.0	
	AVERAGE	1705.9	08.1	336.5	0000.0	176.0	0706.1	08.3	163.0	GOOD HOUR
09/02	15:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	15:24 01	1955.8	07.4	338.3	0000.0	172.3	0836.6	07.6	157.0	
09/02	15:39 01	1946.5	07.5	339.5	0000.0	172.1	0836.9	08.0	157.0	
09/02	15:54 01	2007.0	07.1	339.7	0000.0	171.4	0873.6	07.7	156.6	
	AVERAGE	1969.8	07.3	339.2	0000.0	171.9	0849.0	07.8	156.9	GOOD HOUR
09/02	16:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	16:24 01	1816.8	07.6	340.9	0000.0	172.7	1364.4	08.0	156.1	
09/02	16:39 01	1820.8	07.7	339.0	0000.0	171.2	0803.5	08.1	156.7	
09/02	16:54 01	1748.3	07.9	339.9	0000.0	169.6	0755.7	08.3	154.5	
	AVERAGE	1795.3	07.7	339.9	0000.0	171.2	0974.5	08.1	155.8	GOOD HOUR
09/02	17:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	17:24 01	1432.4	09.1	342.9	0000.0	170.9	0604.6	09.3	155.9	
09/02	17:39 01	1321.4	08.7	342.3	0000.0	171.6	0501.0	09.2	156.2	
09/02	17:54 01	1197.7	08.7	342.9	0000.0	171.8	0434.0	09.0	156.6	
	AVERAGE	1317.2	08.8	342.7	0000.0	171.4	0513.2	09.2	156.2	GOOD HOUR
09/02	18:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	18:24 01	1127.8	07.9	342.7	0000.0	171.7	0278.8	08.7	157.0	
09/02	18:39 01	1161.8	07.8	343.3	0000.0	171.5	0287.8	08.5	157.1	
09/02	18:54 01	1106.6	07.8	333.3	0000.0	173.4	0291.7	08.4	155.1	
	AVERAGE	1132.1	07.8	339.8	0000.0	172.2	0286.1	08.5	156.4	GOOD HOUR
09/02	19:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	19:24 01	1311.9	08.3	337.7	0000.0	173.6	0546.1	08.7	163.6	
09/02	19:39 01	1376.6	07.9	340.0	0000.0	202.1	0260.6	08.1	184.1	
09/02	19:54 01	1372.6	08.0	338.0	0000.0	198.8	0750.9	08.2	169.2	
	AVERAGE	1353.7	08.1	338.6	0000.0	191.5	0519.2	08.3	172.3	GOOD HOUR
09/02	20:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	20:24 01	1377.2	08.3	342.4	0000.0	178.6	0652.5	08.3	160.1	
09/02	20:39 01	1457.0	08.0	342.2	0000.0	175.4	0699.8	08.3	159.5	

09/02	20:54	01	2130.7	08.0	342.7	0000.0	174.0	0688.5	08.3	157.7	
		AVERAGE	1655.0	08.1	342.7	0000.0	174.1	0680.3	08.3	158.8	GOOD HOUR
09/02	21:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	21:24	01	1506.2	08.4	344.1	0000.0	172.9	0630.4	08.8	157.9	
09/02	21:39	01	1419.1	09.2	344.9	0000.0	173.1	0539.8	09.6	156.3	
09/02	21:54	01	1432.4	08.7	343.9	0000.0	173.0	0519.4	09.3	156.6	
		AVERAGE	1452.6	08.8	344.3	0000.0	173.0	0565.9	09.2	156.9	GOOD HOUR
09/02	22:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	22:24	01	1477.0	08.1	345.2	0000.0	172.1	0514.7	09.3	157.7	
09/02	22:39	01	1443.1	08.5	344.6	0000.0	171.9	0553.5	09.1	157.9	
09/02	22:54	01	1295.4	09.3	343.1	0000.0	171.4	0436.5	10.0	157.4	
		AVERAGE	1405.2	08.6	344.3	0000.0	171.8	0501.6	09.5	157.7	GOOD HOUR
09/02	23:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/02	23:24	01	1099.2	09.4	342.8	0000.0	170.6	0292.6	10.6	155.6	
09/02	23:39	01	1359.9	07.6	343.5	0000.0	170.1	0437.4	08.8	155.6	
09/02	23:54	01	1467.0	07.3	346.4	0000.0	170.0	0572.8	08.1	156.2	
		AVERAGE	1308.7	08.1	344.2	0000.0	170.2	0434.3	09.2	155.8	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:51	13.6E+07	24.7E+05	32.2E-01	00.0E-02	73.8E-02	100	77.1	GOOD HOUR
01:51	14.3E+07	24.0E+05	28.8E-01	00.0E-02	73.9E-02	100	74.3	GOOD HOUR
02:51	14.1E+07	29.7E+05	29.0E-01	00.0E-02	80.0E-02	100	72.5	GOOD HOUR
03:51	14.1E+07	23.7E+05	29.9E-01	00.0E-02	14.7E-01	100	50.6	GOOD HOUR
04:51	00.0E-02	00.0E-02	44.5E-01	00.0E-02	10.0E-01	100	77.5	GOOD HOUR
05:51	00.0E-02	00.0E-02	46.3E-01	00.0E-02	14.3E-01	100	69.1	GOOD HOUR
06:51	00.0E-02	00.0E-02	42.7E-01	00.0E-02	17.0E-01	100	60.1	GOOD HOUR
07:51	13.8E+07	22.0E+05	46.0E-01	00.0E-02	21.5E-01	100	53.3	GOOD HOUR
08:51	12.5E+07	19.3E+05	44.0E-01	00.0E-02	17.0E-01	100	61.3	GOOD HOUR
10:00	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:54	12.3E+07	20.0E+05	29.9E-01	00.0E-02	23.6E-01	100	21.1	GOOD HOUR
11:54	12.7E+07	19.4E+05	30.4E-01	00.0E-02	84.8E-02	100	72.1	GOOD HOUR
12:54	12.7E+07	19.6E+05	28.1E-01	00.0E-02	13.2E-01	100	53.2	GOOD HOUR
13:54	12.0E+07	20.5E+05	29.3E-01	00.0E-02	10.4E-01	100	64.6	GOOD HOUR
14:54	12.7E+07	20.4E+05	45.3E-01	00.0E-02	19.0E-01	100	58.0	GOOD HOUR
15:54	13.0E+07	19.6E+05	49.5E-01	00.0E-02	22.0E-01	100	55.5	GOOD HOUR
16:54	13.0E+07	20.2E+05	46.5E-01	00.0E-02	26.0E-01	100	44.0	GOOD HOUR
17:54	12.5E+07	21.3E+05	37.2E-01	00.0E-02	14.9E-01	100	59.9	GOOD HOUR
18:54	12.7E+07	20.0E+05	29.5E-01	00.0E-02	78.8E-02	100	73.3	GOOD HOUR
19:54	12.5E+07	20.0E+05	35.9E-01	00.0E-02	14.1E-01	100	60.8	GOOD HOUR
20:54	12.5E+07	20.0E+05	44.0E-01	00.0E-02	18.4E-01	100	58.2	GOOD HOUR
21:54	12.7E+07	21.5E+05	40.8E-01	00.0E-02	16.5E-01	100	59.5	GOOD HOUR
22:54	12.0E+07	20.1E+05	39.0E-01	00.0E-02	14.9E-01	100	61.7	GOOD HOUR
23:54	11.5E+07	18.5E+05	34.8E-01	00.0E-02	12.6E-01	100	63.8	GOOD HOUR
		AVERAGE	37.5E-01		14.8E-01		60.9	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SD_EPT 3,1980"

SEPT 3,1980

ENTER FILE NAME
? IN9030
ENTER OUTPUT FILE NAME
? OUT9030
ENTER PROCESS DATA FILE NAME
? P9030
ENTER HEAT INPUT CONTENT
? 122_500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	10380	00000	BT	NO
0200	10000	00000	BT	NO
0300	09610	00000	BT	NO
0400	08840	00000	BT	NO
0500	09030	00000	BT	NO
0600	09420	00000	BT	NO
0700	10000	00000	BT	NO
0800	10000	00000	BT	NO
0900	08100	00000	BT	NO
1000	08300	00000	BT	NO
1100	08300	00000	BT	NO
1200	09770	00000	BT	NO
1300	09040	00000	BT	NO

1400	10140	00000	BT	NO
1500	09590	00000	BT	NO
1600	09590	00000	BT	NO
1700	09220	00000	BT	NO
1800	09040	00000	BT	NO
1900	09960	00000	BT	NO
2000	10140	00000	BT	NO
2100	08850	00000	BT	NO
2200	08850	00000	BT	NO
2300	09220	00000	BT	NO
2400	09960	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/03	00:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	00:24	01	1191.7	07.7	344.5	0000.0	154.7	0375.9	08.7	169.4	
09/03	00:39	01	1151.1	07.5	344.2	0000.0	156.3	0330.8	08.6	169.7	
09/03	00:54	01	1042.7	08.0	342.5	0000.0	154.5	0260.8	08.9	169.2	
		AVERAGE	1128.5	07.7	343.7	0000.0	155.2	0322.5	08.7	169.4	GOOD HOUR
09/03	01:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	01:24	01	1228.9	07.1	348.0	0000.0	159.5	0383.7	07.9	171.6	
09/03	01:39	01	1167.7	08.3	344.2	0000.0	155.8	0341.0	09.3	170.2	
09/03	01:54	01	1187.7	08.3	344.1	0000.0	178.8	0655.0	09.2	185.5	
		AVERAGE	1194.8	07.9	345.4	0000.0	164.7	0459.9	08.8	175.8	GOOD HOUR
09/03	02:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	02:24	01	1373.2	07.0	341.9	0000.0	158.4	0504.1	08.2	174.9	
09/03	02:39	01	1397.8	06.7	343.2	0000.0	157.0	0488.4	07.9	172.0	
09/03	02:54	01	1387.2	06.8	341.5	0000.0	153.8	0494.2	07.9	169.4	
		AVERAGE	1386.1	06.8	342.2	0000.0	156.4	0495.6	08.0	172.1	GOOD HOUR
09/03	03:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	03:24	01	1360.6	07.0	344.4	0000.0	155.6	0515.8	08.2	171.0	
09/03	03:39	01	1131.8	09.2	343.9	0000.0	153.6	0370.0	10.2	169.5	
09/03	03:54	01	1038.1	09.7	343.4	0000.0	153.7	0318.5	10.6	169.4	
		AVERAGE	1176.8	08.6	343.9	0000.0	154.3	0401.4	09.7	170.0	GOOD HOUR
09/03	04:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

09/03	04:24	01	1189.7	08.4	343.2	0000.0	153.2	0347.3	09.0	169.0	
09/03	04:39	01	1305.4	08.4	344.3	0000.0	153.7	0405.4	09.1	169.7	
09/03	04:54	01	1338.0	08.5	344.2	0000.0	154.5	0469.2	09.3	169.5	
		AVERAGE	1277.7	08.4	343.9	0000.0	153.8	0407.3	09.1	169.4	GOOD HOUR
09/03	05:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	05:24	01	1270.8	09.4	348.3	0000.0	154.2	0519.3	09.9	169.3	
09/03	05:39	01	1249.5	09.7	344.9	0000.0	153.8	0482.4	10.3	169.9	
09/03	05:54	01	1287.4	09.4	344.1	0000.0	154.0	0494.6	10.1	169.2	
		AVERAGE	1269.2	09.5	345.8	0000.0	154.0	0498.8	10.1	169.5	GOOD HOUR
09/03	06:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	06:24	01	1229.6	09.5	343.3	0000.0	153.6	0462.8	09.8	169.3	
09/03	06:39	01	1240.2	09.9	343.7	0000.0	153.2	0473.1	10.6	168.8	
09/03	06:54	01	1286.1	09.6	343.9	0000.0	152.9	0476.3	10.4	168.0	
		AVERAGE	1252.0	09.7	343.6	0000.0	153.2	0471.4	10.3	168.7	GOOD HOUR
09/03	07:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	07:24	01	1573.4	07.0	345.5	0000.0	163.5	0807.3	08.4	185.7	
09/03	07:39	01	1559.4	06.9	346.2	0000.0	157.4	0745.3	08.1	175.6	
09/03	07:54	01	1443.7	07.7	347.0	0000.0	158.4	0609.8	09.3	173.1	
		AVERAGE	1525.5	07.2	346.2	0000.0	159.8	0720.8	08.6	178.1	GOOD HOUR
09/03	08:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	08:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	08:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/03	08:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/03	09:09	01	1198.3	09.6	350.1	0000.0	154.2	0424.7	10.7	172.0	
09/03	09:24	01	1046.7	10.4	346.9	0000.0	155.9	0414.4	11.2	170.9	
09/03	09:39	01	1091.9	10.0	346.9	0000.0	159.1	0434.9	10.8	173.6	
09/03	09:54	01	0970.2	09.9	347.5	0000.0	156.5	0329.5	11.1	172.1	
		AVERAGE	1076.8	10.0	347.9	0000.0	156.4	0400.9	11.0	172.2	GOOD HOUR
09/03	10:09	01	0901.1	10.0	346.9	0000.0	160.0	0398.5	11.2	174.1	
09/03	10:24	01	0942.3	08.4	346.4	0000.0	160.1	0327.8	09.5	173.8	
09/03	10:39	01	1005.5	08.0	347.1	0000.0	160.7	0354.9	09.2	173.7	
09/03	10:54	01	0977.6	08.2	347.3	0000.0	160.3	0363.0	09.1	173.5	
		AVERAGE	0956.6	08.7	346.9	0000.0	160.3	0333.6	09.8	173.8	GOOD HOUR
09/03	11:09	01	0997.5	07.3	346.6	0000.0	159.1	0375.4	08.9	173.7	
09/03	11:24	01	0885.1	08.5	341.1	0000.0	151.0	0332.9	09.5	164.7	
09/03	11:39	01	0882.5	08.7	346.3	0000.0	156.6	0297.1	09.6	170.5	
09/03	11:54	01	0828.6	09.3	338.1	0000.0	167.3	0432.1	10.0	177.0	
		AVERAGE	0898.4	08.5	343.0	0000.0	158.5	0359.4	09.5	171.5	GOOD HOUR
09/03	12:09	01	0692.3	10.1	335.8	0000.0	179.1	0380.6	10.9	193.6	
09/03	12:24	01	0788.7	08.1	336.1	0000.0	167.5	0339.3	08.7	189.0	
09/03	12:39	01	0784.0	08.5	337.7	0000.0	157.7	0434.6	08.9	179.4	

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3.8"
EPA Form 2250-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 257)
PAGE NUMBER
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
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TOP OF IMAGE AREA

09/03	12:54 01	0825.9	08.2	340.3	0000.0	159.3	0311.1	08.5	178.9			
	AVERAGE	0772.7	08.7	337.5	0000.0	165.9	0366.4	09.3	185.2	GOOD HOUR		
09/03	13:09 01	0846.5	08.3	344.3	0000.0	159.5	0339.8	08.7	177.1			
09/03	13:24 01	0790.7	08.4	344.3	0000.0	156.5	0308.8	08.8	174.9			
09/03	13:39 01	0844.6	07.7	341.2	0000.0	155.8	0286.0	08.0	172.2			
09/03	13:54 01	0863.2	07.9	342.2	0000.0	156.3	0275.3	08.3	172.3			
	AVERAGE	0836.3	08.1	343.0	0000.0	157.0	0302.5	08.5	174.1	GOOD HOUR		
09/03	14:09 01	0771.4	09.2	340.9	0000.0	153.0	0215.4	09.7	169.3			
09/03	14:24 01	0840.6	08.4	343.2	0000.0	154.9	0240.5	08.6	170.5			
09/03	14:39 01	0877.1	08.5	341.8	0000.0	155.6	0279.8	08.9	170.3			
09/03	14:54 01	0899.1	08.6	343.4	0000.0	156.2	0281.0	09.2	171.2			
	AVERAGE	02.3	0000.0	154.9		0254.2	09.1	170.3	GOOD HOUR			
09/03	15:09 01	0934.3	08.4	342.4	0000.0	154.9	0312.8	09.0	170.3			
09/03	15:24 01	1063.3	08.0	343.2	0000.0	155.5	0408.4	08.4	170.6			
09/03	15:39 01	1795.4	07.5	344.7	0000.0	155.2	0579.1	07.9	171.2			
09/03	15:54 01	1156.4	08.5	342.8	0000.0	153.1	0184.7	09.2	168.7			
	AVERAGE	1237.4	08.1	343.3	0000.0	154.7	0371.3	08.6	170.2	GOOD HOUR		
09/03	16:09 01	1213.6	08.3	343.2	0000.0	153.7	0504.2	08.9	169.4			
09/03	16:24 01	1084.6	08.5	341.3	0000.0	154.9	0472.9	09.2	169.1			
09/03	16:39 01	1101.2	08.6	342.9	0000.0	155.3	0424.6	09.2	170.1			
09/03	16:54 01	1041.4	09.2	342.8	0000.0	152.8	0874.0	09.8	172.3			
	AVERAGE	1110.2	08.7	342.6	0000.0	154.2	0568.9	09.3	170.2	GOOD HOUR		
09/03	17:09 01	0927.7	10.1	346.0	0000.0	158.1	0410.4	10.8	173.5			
09/03	17:24 01	1061.3	07.9	350.2	0000.0	159.2	0535.2	08.5	173.3			
09/03	17:39 01	1052.7	08.5	348.6	0000.0	158.5	0524.1	09.2	173.8			
09/03	17:54 01	1149.1	07.3	346.5	0000.0	157.2	0536.4	08.0	172.0			
	AVERAGE	1047.7	08.5	347.8	0000.0	158.3	0501.5	09.1	173.2	GOOD HOUR		
09/03	18:09 01	1150.5	07.9	344.5	0000.0	155.6	0505.1	08.5	171.3			
09/03	18:24 01	1139.8	07.6	347.3	0000.0	159.1	0483.9	08.2	173.5			
09/03	18:39 01	1202.3	07.2	347.6	0000.0	159.6	0546.6	08.0	174.3			
09/03	18:54 01	1244.2	06.8	348.1	0000.0	160.5	0583.7	07.7	175.1			
	AVERAGE	1184.2	07.4	346.9	0000.0	158.7	0529.8	08.1	173.6	GOOD HOUR		
09/03	19:09 01	1166.4	08.0	348.4	0000.0	160.1	0549.4	08.6	174.2			
09/03	19:24 01	1093.3	08.3	348.0	0000.0	171.2	0621.5	09.0	181.6			
09/03	19:39 01	1116.5	07.8	348.5	0000.0	195.3	0782.2	08.7	202.7			
09/03	19:54 01	1046.7	08.6	343.2	0000.0	184.5	0589.2	09.3	202.9			
	AVERAGE	1105.7	08.2	347.0	0000.0	177.8	0635.6	08.9	190.4	GOOD HOUR		
09/03	20:09 01	1016.8	08.6	345.0	0000.0	172.3	0491.6	09.5	193.6			
09/03	20:24 01	1021.4	08.6	343.4	0000.0	162.6	0452.9	09.4	181.5			
09/03	20:39 01	0974.2	08.7	345.3	0000.0	167.6	0438.2	09.7	178.8			
09/03	20:54 01	0978.9	09.9	347.8	0000.0	160.5	0468.7	10.9	177.4			
	AVERAGE	0997.8	09.0	345.4	0000.0	165.8	0462.9	09.9	182.8	GOOD HOUR		

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2250-4 (4-80)
(PREVIOUSLY CIN, EPA FORM 287)
PAGE NUMBER
A-40
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
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TOP OF IMAGE AREA

09/03	21:09	01	1050.0	09.2	346.9	0000.0	160.8	0488.8	09.8	174.7		
09/03	21:24	01	1046.0	08.8	348.8	0000.0	159.5	0503.4	09.6	174.7		
09/03	21:39	01	1012.0	09.6	350.6	0000.0	162.2	0520.2	10.4	176.3		
09/03	21:54	01	0996.8	09.4	345.0	0000.0	158.0	0483.4	10.0	172.9		
		AVERAGE	1026.2	09.3	347.8	0000.0	160.1	0499.0	10.0	174.7	GOOD HOUR	
09/03	22:09	01	1060.0	08.6	346.5	0000.0	160.1	0494.4	09.2	174.4		
09/03	22:24	01	1105.2	07.6	346.6	0000.0	159.1	0485.0	08.5	173.1		
09/03	22:39	01	1022.8	08.9	345.9	0000.0	158.8	0443.2	09.5	173.0		
09/03	22:54	01	1117.9	08.0	345.9	0000.0	157.3	0536.1	09.2	171.2		
		AVERAGE	1076.5	08.3	346.2	0000.0	158.8	0489.7	09.1	172.9	GOOD HOUR	
09/03	23:09	01	1222.9	07.9	346.4	0000.0	158.9	0638.0	08.5	172.4		
09/03	23:24	01	1336.7	07.2	347.2	0000.0	157.9	0758.6	07.9	172.6		
09/03	23:39	01	1332.0	08.0	346.8	0000.0	162.7	0920.9	08.7	173.7		
09/03	23:54	01	1283.5	08.0	347.7	0000.0	156.8	0759.6	08.8	171.7		
		AVERAGE	1293.8	07.8	347.0	0000.0	159.1	0769.3	08.5	172.6	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:54	13.0E+07	20.2E+05	29.2E-01	00.0E-02	90.3E-02	100	69.1	GOOD HOUR
01:54	12.5E+07	19.7E+05	31.3E-01	00.0E-02	12.9E-01	100	58.6	GOOD HOUR
02:54	12.0E+07	17.5E+05	33.6E-01	00.0E-02	13.1E-01	100	61.0	GOOD HOUR
03:54	11.1E+07	18.5E+05	32.7E-01	00.0E-02	12.2E-01	100	62.8	GOOD HOUR
04:54	11.3E+07	18.6E+05	34.9E-01	00.0E-02	11.8E-01	100	66.2	GOOD HOUR
05:54	11.8E+07	21.2E+05	37.9E-01	00.0E-02	15.7E-01	100	58.5	GOOD HOUR
06:54	12.5E+07	22.8E+05	38.0E-01	00.0E-02	15.1E-01	100	60.2	GOOD HOUR
07:54	12.5E+07	18.7E+05	37.9E-01	00.0E-02	20.0E-01	100	47.4	GOOD HOUR
08:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
09:54	10.4E+07	19.5E+05	33.6E-01	00.0E-02	13.7E-01	100	59.1	GOOD HOUR
10:54	10.4E+07	17.4E+05	26.6E-01	00.0E-02	10.2E-01	100	61.7	GOOD HOUR
11:54	12.2E+07	20.1E+05	24.6E-01	00.0E-02	10.7E-01	100	56.3	GOOD HOUR
12:54	11.3E+07	19.0E+05	21.6E-01	00.0E-02	10.7E-01	100	50.4	GOOD HOUR
13:54	12.7E+07	20.3E+05	22.2E-01	00.0E-02	82.8E-02	100	62.7	GOOD HOUR
14:54	12.0E+07	20.1E+05	23.6E-01	00.0E-02	73.4E-02	100	68.9	GOOD HOUR
15:54	12.0E+07	19.2E+05	32.9E-01	00.0E-02	10.3E-01	100	68.7	GOOD HOUR
16:54	11.5E+07	19.3E+05	30.9E-01	00.0E-02	16.7E-01	100	46.0	GOOD HOUR
17:54	11.3E+07	18.6E+05	28.7E-01	00.0E-02	14.5E-01	100	49.4	GOOD HOUR
18:54	12.5E+07	18.9E+05	29.8E-01	00.0E-02	14.1E-01	100	52.7	GOOD HOUR
19:54	12.7E+07	20.4E+05	29.6E-01	00.0E-02	18.0E-01	100	39.0	GOOD HOUR
20:54	11.1E+07	19.0E+05	28.4E-01	00.0E-02	14.3E-01	100	49.7	GOOD HOUR
21:54	11.1E+07	19.5E+05	30.0E-01	00.0E-02	15.5E-01	100	48.3	GOOD HOUR
22:54	11.5E+07	18.7E+05	29.0E-01	00.0E-02	14.1E-01	100	51.3	GOOD HOUR
23:54	12.5E+07	19.5E+05	33.6E-01	00.0E-02	21.1E-01	100	37.2	GOOD HOUR
		AVERAGE	30.5E-01		13.5E-01		55.9	

GOOD DAY

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN EPA FORM 381)
PAGE NUMBER
A-42
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? 'SEPT 4,1980'

SEPT 4,1980

ENTER FILE NAME
? IN9040
ENTER OUTPUT FILE NAME
? 'OUT9040
ENTER PROCESS DATA FILE NAME
? P9040
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	10330	00000	BT	NO
0200	10510	00000	BT	NO
0300	09720	00000	BT	NO
0400	10510	00000	BT	NO
0500	09770	00000	BT	NO
0600	09770	00000	BT	NO
0700	09660	00000	BT	NO
0800	09220	00000	BT	NO
0900	09610	00000	BT	NO
1000	10190	00000	BT	NO
1100	10380	00000	BT	NO
1200	10000	00000	BT	NO
1300	10000	00000	BT	NO

1400	09810	00000	BT	NO
1500	10190	00000	BT	NO
1600	09420	00000	BT	NO
1700	09420	00000	BT	NO
1800	09420	00000	BT	NO
1900	09610	00000	BT	NO
2000	10000	00000	BT	NO
2100	09810	00000	BT	NO
2200	09810	00000	BT	NO
2300	10000	00000	BT	NO
2400	10190	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/04	00:09	01	1767.5	07.7	347.6	0000.0	156.9	0717.5	08.6	171.4	
09/04	00:24	01	1145.1	08.8	351.3	0000.0	156.6	0748.9	09.3	172.0	
09/04	00:39	01	1214.3	08.3	348.1	0000.0	157.0	0685.1	09.1	171.2	
09/04	00:54	01	1293.4	08.3	346.9	0000.0	155.6	0719.3	09.1	170.8	
		AVERAGE	1355.1	08.3	348.5	0000.0	156.5	0717.7	09.0	171.4	GOOD HOUR
09/04	01:09	01	1313.4	07.9	347.9	0000.0	156.3	0749.3	08.8	171.6	
09/04	01:24	01	1244.2	08.1	347.8	0000.0	156.5	0705.2	09.0	171.3	
09/04	01:39	01	1235.6	08.5	348.0	0000.0	157.5	0718.6	09.3	171.8	
09/04	01:54	01	1186.4	08.7	348.2	0000.0	156.2	0662.1	09.5	171.1	
		AVERAGE	1244.9	08.3	348.0	0000.0	156.6	0708.8	09.2	171.5	GOOD HOUR
09/04	02:09	01	1189.0	09.0	347.3	0000.0	155.8	0632.4	09.7	170.9	
09/04	02:24	01	1161.8	08.7	346.3	0000.0	153.7	0589.9	09.5	168.8	
09/04	02:39	01	1155.1	09.0	340.4	0000.0	171.0	0797.7	09.7	196.8	
09/04	02:54	01	1113.9	09.1	341.8	0000.0	156.6	0575.0	10.0	176.3	
		AVERAGE	1155.0	09.0	344.0	0000.0	159.3	0648.8	09.7	178.2	GOOD HOUR
09/04	03:09	01	0996.8	09.7	342.7	0000.0	155.7	0479.2	10.6	173.6	
09/04	03:24	01	0901.7	10.1	342.8	0000.0	153.0	0426.1	11.1	171.1	
09/04	03:39	01	0986.2	09.4	343.5	0000.0	153.7	0453.7	10.6	170.7	
09/04	03:54	01	1085.3	09.2	344.3	0000.0	154.8	0559.8	10.2	172.0	
		AVERAGE	0992.5	09.6	343.3	0000.0	154.3	0479.7	10.6	171.8	GOOD HOUR
09/04	04:09	01	1125.8	09.2	344.3	0000.0	153.7	0592.5	10.2	170.0	

09/04	04:24	01	1005.5	08.8	346.5	0000.0	154.8	0469.8	10.0	170.2	
09/04	04:39	01	1040.1	09.2	344.6	0000.0	155.3	0475.9	10.0	170.9	
09/04	04:54	01	1164.4	08.7	343.9	0000.0	153.6	0525.0	09.5	169.2	
		AVERAGE	1083.9	09.0	344.8	0000.0	154.4	0515.8	09.9	170.1	GOOD HOUR
09/04	05:09	01	1168.4	09.3	345.6	0000.0	154.0	0559.7	09.9	170.0	
09/04	05:24	01	1207.6	08.7	346.6	0000.0	153.7	0601.0	09.8	170.5	
09/04	05:39	01	1234.9	09.2	350.0	0000.0	157.7	0679.8	09.7	172.6	
09/04	05:54	01	1310.7	08.3	347.6	0000.0	153.9	0744.0	09.2	170.6	
		AVERAGE	1230.4	08.9	347.5	0000.0	154.8	0646.1	09.7	170.9	GOOD HOUR
09/04	06:09	01	1395.2	07.9	347.6	0000.0	154.2	0831.0	08.8	167.0	
09/04	06:24	01	1377.2	08.0	340.6	0000.0	153.7	0871.5	08.7	169.2	
09/04	06:39	01	1437.1	07.8	347.2	0000.0	152.9	0968.9	08.6	168.1	
09/04	06:54	01	1236.2	08.2	346.2	0000.0	150.3	0820.7	09.0	166.3	
		AVERAGE	1361.4	08.0	345.4	0000.0	152.8	0873.0	08.8	167.7	GOOD HOUR
09/04	07:09	01	0865.2	10.0	344.3	0000.0	157.2	0573.8	10.7	171.7	
09/04	07:24	01	0681.0	10.2	343.7	0000.0	151.5	0315.7	11.2	168.8	
09/04	07:39	01	0788.7	08.7	346.8	0000.0	152.0	0339.9	09.1	168.3	
09/04	07:54	01	0748.1	09.5	393.4	0000.0	152.9	0349.9	09.8	167.7	
		AVERAGE	0770.8	09.6	357.1	0000.0	153.4	0394.8	10.2	169.1	GOOD HOUR
09/04	08:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	08:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	08:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	08:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/04	09:13	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	09:28	01	0921.7	09.0	346.2	0000.0	274.2	0900.0	12.0	237.4	
09/04	09:43	01	1130.5	08.5	349.3	0000.0	174.7	0835.1	11.5	198.8	
09/04	09:58	01	1134.5	08.1	346.8	0000.0	168.5	0731.5	11.7	187.5	
		AVERAGE	1062.2	08.5	347.4	0000.0	205.8	0822.2	11.7	207.9	GOOD HOUR
09/04	10:13	01	1036.1	07.8	346.2	0000.0	167.0	0614.9	11.4	183.9	
09/04	10:28	01	1000.2	08.0	344.8	0000.0	166.6	0587.2	11.7	181.9	
09/04	10:43	01	1028.1	07.6	346.1	0000.0	167.1	0620.0	11.0	183.3	
09/04	10:58	01	0980.2	07.7	344.2	0000.0	197.3	0752.8	11.5	203.1	
		AVERAGE	1011.2	07.8	345.3	0000.0	174.5	0643.7	11.4	188.0	GOOD HOUR
09/04	11:13	01	0990.2	07.8	336.7	0000.0	168.9	0863.0	11.5	189.6	
09/04	11:28	01	1021.4	07.0	337.8	0000.0	166.2	0885.0	11.2	182.9	
09/04	11:43	01	0974.2	08.2	334.1	0000.0	160.5	0918.9	11.5	177.1	
09/04	11:58	01	0959.6	08.2	331.6	0000.0	158.5	0909.2	11.7	175.6	
		AVERAGE	0986.4	07.8	335.1	0000.0	163.5	0894.0	11.5	181.3	GOOD HOUR
09/04	12:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	12:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	12:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN, EPA FORM 237)
PAGE NUMBER
A-44
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/04	12:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/04	13:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	13:26 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	13:41 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	13:56 01	0960.3	09.0	309.0	0000.0	275.1	1011.1	08.3	308.1		
	AVERAGE	0960.3	09.0	309.0	0000.0	275.1	1011.1	08.3	308.1	BAD HOUR	
09/04	14:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	14:26 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	14:41 01	1149.8	09.4	321.9	0000.0	277.0	1144.6	08.7	314.3		
09/04	14:56 01	1092.6	10.1	323.2	0000.0	275.2	1005.6	10.4	311.3		
	AVERAGE	1121.2	08.8	322.5	0000.0	276.1	1075.1	09.5	312.8	GOOD HOUR	
09/04	15:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	15:26 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	15:41 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	15:56 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/04	16:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	16:26 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	16:41 01	0907.7	09.9	324.5	0000.0	235.0	0925.8	09.2	303.3		
09/04	16:56 01	0991.5	09.6	327.1	0000.0	195.9	0958.3	08.8	250.1		
	AVERAGE	0949.6	09.8	325.8	0000.0	215.5	0942.1	09.0	276.7	GOOD HOUR	
09/04	17:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	17:26 01	0881.8	09.9	314.9	0000.0	173.5	0818.7	09.1	212.3		
09/04	17:41 01	0819.3	10.1	319.5	0000.0	171.8	0816.5	09.4	202.8		
09/04	17:56 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0890.5	10.0	317.2	0000.0	172.6	0817.6	09.4	207.5	GOOD HOUR	
09/04	18:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	18:26 01	0887.1	09.2	327.2	0000.0	178.5	0906.9	09.0	200.9		
09/04	18:41 01	0855.2	09.8	329.5	0000.0	179.0	0853.1	09.2	197.1		
09/04	18:56 01	0841.9	09.7	326.0	0000.0	179.6	0855.1	08.9	195.9		
	AVERAGE	0861.4	09.6	327.6	0000.0	179.0	0871.7	09.0	198.0	GOOD HOUR	
09/04	19:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	19:26 01	0827.1	09.4	329.9	0000.0	177.9	0861.3	08.6	194.3		
09/04	19:41 01	0838.2	09.1	329.5	0000.0	175.9	0830.2	08.5	192.4		
09/04	19:56 01	0758.1	10.5	330.1	0000.0	169.4	0708.5	09.4	189.1		
	AVERAGE	0807.8	09.7	329.8	0000.0	174.4	0800.0	08.8	191.9	GOOD HOUR	
09/04	20:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/04	20:26 01	0763.4	09.6	325.4	0000.0	169.8	0683.3	09.0	199.9		
09/04	20:41 01	0797.3	09.4	324.6	0000.0	164.8	0683.2	09.0	189.4		
09/04	20:56 01	0758.1	10.5	330.1	0000.0	169.4	0708.5	09.4	189.1		
	AVERAGE	0772.9	09.8	326.7	0000.0	168.0	0691.7	09.1	192.8	GOOD HOUR	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
A-45
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
TYPING GUIDE SHEET

09/04	21:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	21:26 01	0811.3	10.4	329.3	0000.0	164.8	0673.4	09.6	183.9	
09/04	21:41 01	1033.4	09.5	329.1	0000.0	163.7	0884.6	08.8	181.9	
09/04	21:56 01	0842.6	10.3	329.9	0000.0	163.6	0763.8	09.4	182.4	
	AVERAGE	0895.8	10.1	329.4	0000.0	164.0	0773.9	09.3	182.7	GOOD HOUR
09/04	22:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	22:26 01	0933.0	09.3	329.5	0000.0	162.2	0826.5	08.4	180.2	
09/04	22:41 01	0989.5	09.0	330.5	0000.0	161.0	0897.2	08.2	180.2	
09/04	22:56 01	0906.4	09.9	319.2	0000.0	158.1	0810.1	09.1	178.6	
	AVERAGE	0943.0	09.4	326.4	0000.0	160.4	0844.6	08.6	179.7	GOOD HOUR
09/04	23:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/04	23:26 01	0937.7	09.2	294.9	0000.0	149.0	0619.5	08.5	173.0	
09/04	23:41 01	0943.0	09.3	304.8	0000.0	152.0	0605.8	08.6	173.4	
09/04	23:56 01	0962.9	09.6	315.3	0000.0	156.3	0750.5	08.6	175.3	
	AVERAGE	0947.9	09.4	305.0	0000.0	152.4	0658.6	08.6	173.9	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:54	12.9E+07	21.0E+05	36.6E-01	00.0E-02	20.6E-01	100	43.7	GOOD HOUR
01:54	13.1E+07	21.4E+05	33.7E-01	00.0E-02	20.6E-01	100	38.9	GOOD HOUR
02:54	12.2E+07	21.0E+05	32.9E-01	00.0E-02	19.8E-01	100	39.9	GOOD HOUR
03:54	13.1E+07	23.9E+05	29.9E-01	00.0E-02	15.9E-01	100	46.8	GOOD HOUR
04:54	12.2E+07	21.0E+05	31.0E-01	00.0E-02	16.0E-01	100	48.3	GOOD HOUR
05:54	12.2E+07	20.8E+05	34.9E-01	00.0E-02	19.6E-01	100	43.9	GOOD HOUR
06:54	12.1E+07	19.2E+05	35.9E-01	00.0E-02	24.5E-01	100	31.6	GOOD HOUR
07:54	11.5E+07	20.9E+05	23.2E-01	00.0E-02	12.6E-01	100	45.9	GOOD HOUR
08:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
09:58	12.7E+07	21.1E+05	29.3E-01	00.0E-02	30.6E-01	100	04.4	GOOD HOUR
10:58	13.0E+07	20.3E+05	26.2E-01	00.0E-02	23.1E-01	100	12.0	GOOD HOUR
11:58	12.5E+07	19.6E+05	25.7E-01	00.0E-02	32.3E-01	100	26.0	GOOD HOUR
12:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
13:56	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00	BAD HOUR
14:56	12.7E+07	23.3E+05	34.4E-02	00.0E-02	32.1E-01	100	06.0	GOOD HOUR
15:56	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00	BAD HOUR
16:56	11.8E+07	21.7E+05	29.1E-01	00.0E-02	26.9E-01	100	07.0	GOOD HOUR
17:56	11.8E+07	22.1E+05	26.5E-01	00.0E-02	24.0E-01	100	08.0	GOOD HOUR
18:56	12.0E+07	21.8E+05	25.9E-01	00.0E-02	25.0E-01	100	03.4	GOOD HOUR
19:56	12.5E+07	22.8E+05	24.5E-01	00.0E-02	22.6E-01	100	07.8	GOOD HOUR
20:56	12.3E+07	22.7E+05	23.8E-01	00.0E-02	20.0E-01	100	15.8	GOOD HOUR
21:56	12.3E+07	23.2E+05	28.2E-01	00.0E-02	22.7E-01	100	19.5	GOOD HOUR
22:56	12.5E+07	22.3E+05	27.9E-01	00.0E-02	23.3E-01	100	16.5	GOOD HOUR
23:56	12.7E+07	22.7E+05	28.0E-01	00.0E-02	18.2E-01	100	35.0	GOOD HOUR
		AVERAGE	29.0E-01		22.9E-01		23.8	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 5,1980"

SEPT 5,1980

ENTER FILE NAME
? IN9050
ENTER OUTPUT FILE NAME
? OUT9050
ENTER PROCESS DATA FILE NAME
? P9050
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	07880	00000	BT	NO
0200	08840	00000	BT	NO
0300	10570	00000	BT	NO
0400	10770	00000	BT	NO
0500	10960	00000	BT	NO
0600	07690	00000	BT	NO
0700	08840	00000	BT	NO
0800	10000	00000	BT	NO
0900	09570	00000	BT	NO
1000	08880	00000	BT	NO
1100	08530	00000	BT	NO
1200	08010	00000	BT	NO
1300	08180	00000	BT	NO

1400	07830	00000	BT	NO
1500	06270	00000	BT	NO
1600	05050	00000	BT	NO
1700	08350	00000	BT	NO
1800	06960	00000	BT	NO
1900	07830	00000	BT	NO
2000	07140	00000	BT	NO
2100	07310	00000	BT	NO
2200	06790	00000	BT	NO
2300	06440	00000	BT	NO
2400	06090	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/05	00:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	00:26	01	0999.5	08.8	324.7	0000.0	157.2	0721.1	07.8	176.6	
09/05	00:41	01	1008.8	08.8	327.1	0000.0	158.1	0729.0	07.8	175.3	
09/05	00:56	01	1018.1	08.8	327.3	0000.0	158.0	0749.5	07.8	175.3	
		AVERAGE	1008.8	08.8	326.4	0000.0	157.8	0733.2	07.8	175.7	GOOD HOUR
09/05	01:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	01:36	01	0945.0	08.9	330.8	0000.0	159.1	0829.4	08.0	177.8	
09/05	01:41	01	0909.1	08.8	326.9	0000.0	168.2	0953.3	08.2	195.7	
09/05	01:56	01	0832.6	09.3	331.3	0000.0	161.6	0855.2	09.1	183.4	
		AVERAGE	0895.6	09.0	329.7	0000.0	163.0	0879.3	08.4	185.6	GOOD HOUR
09/05	02:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	02:26	01	0909.1	08.8	329.7	0000.0	168.2	0953.3	09.2	195.7	
09/05	02:41	01	0846.5	09.2	331.0	0000.0	158.4	0754.2	08.8	176.1	
09/05	02:56	01	1035.4	09.3	331.4	0000.0	157.7	0817.4	08.5	176.0	
		AVERAGE	0930.3	09.1	330.7	0000.0	161.4	0841.6	08.8	182.6	GOOD HOUR
09/05	03:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	03:26	01	0996.8	08.6	333.5	0000.0	156.0	1070.7	07.6	178.1	
09/05	03:41	01	1016.1	08.6	334.2	0000.0	160.5	1075.6	07.8	177.9	
09/05	03:56	01	1039.4	08.8	334.8	0000.0	161.7	1000.3	07.9	179.3	
		AVERAGE	1017.4	08.7	334.2	0000.0	159.4	1048.9	07.8	178.4	GOOD HOUR
09/05	04:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

09/05	04:26 01	0864.5	10.5	338.5	0000.0	164.3	0836.7	10.1	181.4	
09/05	04:41 01	0936.9	09.9	334.9	0000.0	160.8	0997.4	09.1	177.5	
09/05	04:56 01	0972.2	10.0	335.7	0000.0	163.4	0960.0	09.2	179.2	
	AVERAGE	0924.5	10.1	336.4	0000.0	162.8	0931.4	09.5	179.4	GOOD HOUR
09/05	05:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	05:26 01	1061.3	09.6	335.8	0000.0	164.3	0960.4	08.7	180.7	
09/05	05:41 01	1074.6	09.7	336.3	0000.0	164.3	1117.4	08.7	180.4	
09/05	05:56 01	1002.8	09.7	336.8	0000.0	164.9	1059.7	09.0	180.7	
	AVERAGE	1046.2	09.7	336.3	0000.0	164.5	1045.8	08.8	180.6	GOOD HOUR
09/05	06:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	06:26 01	1010.1	09.1	337.2	0000.0	163.4	1076.3	08.5	181.2	
09/05	06:41 01	1026.8	08.9	337.4	0000.0	161.1	1122.1	08.0	179.8	
09/05	06:56 01	0964.9	09.5	336.8	0000.0	161.4	1054.0	08.7	179.4	
	AVERAGE	1000.6	09.2	337.1	0000.0	162.0	1084.1	08.4	180.1	GOOD HOUR
09/05	07:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	07:26 01	0873.1	09.9	335.7	0000.0	158.6	0940.4	09.4	184.6	
09/05	07:41 01	0950.3	09.4	334.5	0000.0	166.6	0944.8	09.0	181.0	
09/05	07:56 01	0989.5	08.7	335.0	0000.0	157.2	0963.7	07.9	174.2	
	AVERAGE	0937.6	09.3	335.1	0000.0	160.8	0949.6	08.8	179.9	GOOD HOUR
09/05	08:11 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	08:26 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	08:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	08:56 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/05	09:15 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	09:20 01	1392.5	08.4	335.0	0000.0	212.8	0615.8	09.8	237.6	
09/05	09:35 01	1073.3	07.6	336.9	0000.0	195.0	0580.9	09.1	221.5	
09/05	09:50 01	0913.0	08.4	335.2	0000.0	187.5	0406.6	11.9	209.8	
	AVERAGE	1126.3	08.1	335.7	0000.0	198.4	0534.4	10.3	223.0	GOOD HOUR
09/05	10:05 01	0806.6	09.5	334.9	0000.0	182.0	0418.6	10.2	205.7	
09/05	10:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	10:35 01	0779.4	08.7	332.2	0000.0	176.7	0404.6	09.3	196.4	
09/05	10:50 01	0794.2	09.5	330.7	0000.0	170.2	0385.3	10.3	190.2	
	AVERAGE	0793.4	09.2	332.6	0000.0	176.3	0402.8	09.9	197.4	GOOD HOUR
09/05	11:05 01	0708.6	09.8	330.6	0000.0	184.6	0484.2	10.9	192.3	
09/05	11:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	11:35 01	0785.4	08.2	328.1	0000.0	176.0	0447.7	08.8	195.0	
09/05	11:50 01	0802.7	07.9	322.2	0000.0	168.3	0497.6	08.7	184.5	
	AVERAGE	0765.6	08.6	327.0	0000.0	176.3	0477.2	09.5	190.6	GOOD HOUR
09/05	12:05 01	0738.2	09.2	322.2	0000.0	168.3	0632.5	10.2	184.5	
09/05	12:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	12:35 01	0801.3	08.3	323.1	0000.0	176.2	0427.5	09.9	191.6	

EPA Form 2350-4 (4-80) (PREVIOUSLY CIN. EPA FORM 3321)
TYPING GUIDE SHEET
BEGIN LAST LINE OF TEXT
3/8"
PAGE NUMBER
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
☆ U.S. GOVERNMENT PRINTING OFFICE: 1981—

09/05	12:50	01	0831.3	07.5	333.4	0000.0	189.2	0467.0	09.1	203.0	
		AVERAGE	0790.3	08.3	326.2	0000.0	177.9	0509.0	09.7	193.0	GOOD HOUR
09/05	13:05	01	0862.5	06.8	330.0	0000.0	187.2	0544.9	08.3	197.6	
09/05	13:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	13:35	01	0627.1	10.3	327.5	0000.0	187.2	0340.1	11.6	200.2	
09/05	13:50	01	0713.5	09.1	329.6	0000.0	188.1	0349.5	11.2	201.1	
		AVERAGE	0734.4	08.7	329.0	0000.0	187.5	0411.5	10.4	199.6	GOOD HOUR
09/05	14:05	01	0613.1	10.7	327.7	0000.0	188.3	0316.5	11.9	201.2	
09/05	14:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	14:35	01	0524.0	12.1	328.7	0000.0	190.6	0270.3	13.3	202.0	
09/05	14:50	01	0516.7	12.8	328.5	0000.0	190.2	0285.6	12.8	207.2	
		AVERAGE	0551.3	11.9	328.3	0000.0	189.7	0290.8	12.7	203.5	GOOD HOUR
09/05	15:05	01	0489.4	12.8	327.7	0000.0	164.4	0398.7	13.2	193.4	
09/05	15:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	15:35	01	0454.9	12.9	328.4	0000.0	179.9	0274.1	13.9	189.4	
09/05	15:50	01	0707.6	08.9	330.4	0000.0	181.3	0506.7	09.7	194.9	
		AVERAGE	0550.6	11.5	328.8	0000.0	175.2	0393.2	12.3	192.6	GOOD HOUR
09/05	16:05	01	0758.1	07.9	330.4	0000.0	181.8	0674.4	08.9	194.8	
09/05	16:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	16:35	01	0684.3	08.8	328.0	0000.0	181.6	0676.8	08.9	195.6	
09/05	16:50	01	0607.8	10.0	327.7	0000.0	180.5	0587.6	10.7	191.4	
		AVERAGE	0683.4	08.9	328.7	0000.0	181.3	0646.3	09.5	193.9	GOOD HOUR
09/05	17:05	01	0542.6	11.7	331.9	0000.0	184.5	0551.7	11.7	197.3	
09/05	17:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	17:35	01	0643.1	09.6	330.9	0000.0	181.3	0633.3	10.3	196.6	
09/05	17:50	01	0667.7	09.3	330.6	0000.0	181.2	0689.8	09.9	178.8	
		AVERAGE	0617.8	10.2	331.1	0000.0	182.3	0624.9	10.6	190.9	GOOD HOUR
09/05	18:05	01	0669.0	09.0	329.6	0000.0	207.0	0692.8	09.6	208.6	
09/05	18:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	18:35	01	0655.0	09.1	326.5	0000.0	179.4	0670.9	09.5	194.9	
09/05	18:50	01	0613.8	09.5	326.1	0000.0	170.2	0622.3	10.2	188.1	
		AVERAGE	0645.9	09.2	327.4	0000.0	185.5	0662.0	09.8	197.2	GOOD HOUR
09/05	19:05	01	0589.9	09.7	328.5	0000.0	175.6	0618.5	10.3	186.3	
09/05	19:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	19:35	01	0540.0	10.3	329.0	0000.0	176.5	0583.6	10.7	185.0	
09/05	19:50	01	0548.0	10.0	328.9	0000.0	189.4	0624.4	10.4	222.4	
		AVERAGE	0559.3	10.0	328.8	0000.0	180.5	0608.8	10.5	197.9	GOOD HOUR
09/05	20:05	01	0561.9	10.0	330.9	0000.0	192.2	0596.2	10.6	197.8	
09/05	20:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	20:35	01	0601.2	09.9	333.0	0000.0	193.1	0639.2	10.3	206.8	
09/05	20:50	01	0584.5	10.3	332.2	0000.0	192.2	0505.5	11.0	207.7	
		AVERAGE	0582.5	10.1	332.0	0000.0	192.5	0580.3	10.6	204.1	GOOD HOUR

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3/8"
EPA Form 2350-4 (4-80)
PREVIOUSLY CIN: EPA FORM 2371
PAGE NUMBER
A-50
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/05	21:05	01	0609.1	10.0	333.8	0000.0	196.9	0452.1	11.0	218.2	
09/05	21:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	21:35	01	0577.9	11.0	336.4	0000.0	186.1	0430.3	11.4	203.0	
09/05	21:50	01	0577.2	11.0	338.1	0000.0	188.7	0432.5	11.7	204.7	
		AVERAGE	0588.1	10.7	336.1	0000.0	190.6	0438.3	11.4	208.6	GOOD HOUR
09/05	22:05	01	0562.6	11.2	333.0	0000.0	178.7	0414.7	11.7	198.9	
09/05	22:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	22:35	01	0548.6	11.4	333.0	0000.0	176.4	0435.3	11.7	197.6	
09/05	22:50	01	0508.7	12.0	332.2	0000.0	172.3	0448.5	12.5	192.6	
		AVERAGE	0540.0	11.5	332.7	0000.0	175.8	0432.8	12.0	196.4	GOOD HOUR
09/05	23:05	01	0498.1	12.2	332.3	0000.0	170.3	0454.7	12.4	191.7	
09/05	23:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	23:35	01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/05	23:50	01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0498.1	12.2	332.3	0000.0	170.3	0454.7	12.4	191.7	BAD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:56	98.5E+06	16.7E+05	28.4E-01	00.0E-02	19.1E-01	100	32.9	GOOD HOUR
01:56	11.1E+07	19.1E+05	25.6E-01	00.0E-02	24.0E-01	100	06.3	GOOD HOUR
02:56	13.2E+07	23.0E+05	26.9E-01	00.0E-02	23.8E-01	100	11.5	GOOD HOUR
03:56	13.5E+07	22.6E+05	28.3E-01	00.0E-02	27.2E-01	100	04.0	GOOD HOUR
04:56	13.7E+07	26.1E+05	29.3E-01	00.0E-02	27.8E-01	100	05.1	GOOD HOUR
05:56	96.1E+06	17.6E+05	31.7E-01	00.0E-02	29.4E-01	100	07.2	GOOD HOUR
06:56	11.1E+07	19.3E+05	29.1E-01	00.0E-02	29.5E-01	100	01.7	GOOD HOUR
07:56	12.5E+07	22.2E+05	27.6E-01	00.0E-02	26.7E-01	100	03.5	GOOD HOUR
08:56	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
09:50	11.1E+07	17.8E+05	30.1E-01	00.0E-02	17.1E-01	100	43.0	GOOD HOUR
10:50	10.7E+07	18.8E+05	23.2E-01	00.0E-02	12.5E-01	100	46.0	GOOD HOUR
11:50	10.0E+07	16.8E+05	21.3E-01	00.0E-02	14.2E-01	100	33.1	GOOD HOUR
12:50	10.2E+07	16.7E+05	21.4E-01	00.0E-02	15.5E-01	100	27.5	GOOD HOUR
13:50	97.9E+06	16.5E+05	20.6E-01	00.0E-02	13.3E-01	100	35.3	GOOD HOUR
14:50	78.4E+06	17.8E+05	20.8E-01	00.0E-02	12.0E-01	100	42.1	GOOD HOUR
15:50	63.1E+06	13.8E+05	20.0E-01	00.0E-02	15.5E-01	100	22.5	GOOD HOUR
16:50	10.4E+07	17.9E+05	19.4E-01	00.0E-02	19.3E-01	100	00.5	GOOD HOUR
17:50	87.0E+06	16.7E+05	19.7E-01	00.0E-02	20.7E-01	100	05.4	GOOD HOUR
18:50	97.9E+06	17.2E+05	18.8E-01	00.0E-02	20.3E-01	100	07.7	GOOD HOUR
19:50	89.3E+06	16.8E+05	17.5E-01	00.0E-02	19.9E-01	100	13.7	GOOD HOUR
20:50	91.4E+06	17.3E+05	18.3E-01	00.0E-02	19.3E-01	100	05.1	GOOD HOUR
21:50	84.9E+06	17.0E+05	19.6E-01	00.0E-02	15.7E-01	100	20.0	GOOD HOUR
22:50	80.5E+06	17.6E+05	19.6E-01	00.0E-02	16.5E-01	100	16.0	GOOD HOUR
23:50	76.1E+06	17.6E+05	19.4E-01	00.0E-02	20.4E-01	100	00.0	BAD HOUR
		AVERAGE	23.3E-01		20.0E-01		17.73	

GOOD DAY

PROGRAM CELDA

CELANESE FOD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 6,1980"

SEPT 6,1980

ENTER FILE NAME
? IN9060
ENTER OUTPUT FILE NAME
? OUT9060
ENTER PROCESS DATA FILE NAME
? P9060
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	07480	00000	BT	NO
0200	08180	00000	BT	NO
0300	09750	00000	BT	NO
0400	07660	00000	BT	NO
0500	07660	00000	BT	NO
0600	07310	00000	BT	NO
0700	08350	00000	BT	NO
0800	08010	00000	BT	NO
0900	06650	00000	BT	NO
1000	07950	00000	BT	NO
1100	07760	00000	BT	NO
1200	07760	00000	BT	NO
1300	07390	00000	BT	NO

1400	08130	00000	BT	NO
1500	07950	00000	BT	NO
1600	07390	00000	BT	NO
1700	07760	00000	BT	NO
1800	09610	00000	BT	NO
1900	08130	00000	BT	NO
2000	08130	00000	BT	NO
2100	08500	00000	BT	NO
2200	09240	00000	BT	NO
2300	09240	00000	BT	NO
2400	08690	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/06	00:05	01	0548.0	11.5	331.6	0000.0	164.9	0590.8	12.0	181.3	
09/06	00:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	00:35	01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	00:50	01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000,0	
		AVERAGE	0548.0	11.5	331.6	0000.0	164.9	0590.8	12.0	181.3	BAD HOUR
09/06	01:05	01	0729.2	10.0	333.2	0000.0	165.9	0787.2	10.0	180.8	
09/06	01:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	01:35	01	0665.7	09.9	334.0	0000.0	163.9	0433.7	10.1	178.2	
09/06	01:50	01	0779.4	08.2	334.7	0000.0	162.5	0450.9	08.6	176.8	
		AVERAGE	0724.8	09.4	334.0	0000.0	164.1	0557.3	09.6	178.6	GOOD HOUR
09/06	02:05	01	0790.0	07.9	335.2	0000.0	162.0	0440.8	08.1	176.6	
09/06	02:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	02:35	01	0807.3	07.6	331.5	0000.0	165.9	0430.4	08.1	180.3	
09/06	02:50	01	0770.7	07.9	330.3	0000.0	165.4	0409.0	08.1	178.7	
		AVERAGE	0789.3	07.8	332.3	0000.0	164.4	0426.7	08.1	178.5	GOOD HOUR
09/06	03:05	01	0796.7	07.5	332.7	0000.0	166.8	0421.3	08.0	179.0	
09/06	03:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	03:35	01	0796.0	07.7	331.3	0000.0	165.0	0416.3	07.8	176.2	
09/06	03:50	01	0788.0	08.1	331.1	0000.0	165.4	0448.9	08.3	176.2	
		AVERAGE	0793.6	07.8	331.7	0000.0	165.7	0428.8	08.0	177.1	GOOD HOUR
09/06	04:05	01	0801.3	08.0	330.8	0000.0	165.5	0477.9	08.3	176.1	

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3/8"
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
A-53
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
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TOP OF IMAGE AREA

09/06	04:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	04:35 01	0948.3	07.1	332.9	0000.0	165.8	0613.9	07.1	175.2		
09/06	04:50 01	0801.3	09.4	332.4	0000.0	164.6	0413.6	09.8	175.6		
	AVERAGE	0850.3	08.2	332.0	0000.0	165.3	0501.8	08.4	175.6	GOOD HOUR	
09/06	05:05 01	0717.5	10.6	336.2	0000.0	165.9	0369.9	11.4	176.8		
09/06	05:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	05:35 01	0617.8	11.3	334.6	0000.0	162.9	0277.3	11.8	174.4		
09/06	05:50 01	0590.5	11.5	333.5	0000.0	169.3	0269.7	11.7	175.1		
	AVERAGE	0641.9	11.1	334.8	0000.0	166.0	0305.6	11.6	175.4	GOOD HOUR	
09/06	06:05 01	0639.1	10.3	335.1	0000.0	164.5	0322.1	10.6	174.2		
09/06	06:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	06:35 01	0749.5	08.3	334.4	0000.0	164.7	0487.0	08.4	173.8		
09/06	06:50 01	0737.5	08.8	333.1	0000.0	164.3	0543.7	08.0	172.7		
	AVERAGE	0708.7	09.1	334.2	0000.0	164.5	0450.9	09.0	173.6	GOOD HOUR	
09/06	07:05 01	0679.0	09.3	332.7	0000.0	163.2	0475.9	09.4	173.1		
09/06	07:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	07:35 01	0596.5	10.6	330.1	0000.0	162.9	0346.6	11.4	173.7		
09/06	07:50 01	0579.2	11.1	330.8	0000.0	161.3	0341.9	11.7	171.4		
	AVERAGE	0618.2	10.3	331.2	0000.0	162.5	0388.1	10.8	172.7	GOOD HOUR	
09/06	08:05 01	0565.3	11.4	332.9	0000.0	162.7	0314.7	12.4	172.1		
09/06	08:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	08:35 01	0637.1	10.6	333.4	0000.0	161.8	0553.4	11.9	172.3		
09/06	08:50 01	0597.7	10.9	338.0	0000.0	164.2	0592.6	11.6	174.8		
	AVERAGE	0600.0	11.0	334.8	0000.0	162.9	0486.9	12.0	173.1	GOOD HOUR	
09/06	09:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	09:15 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	09:45 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	09:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/06	10:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	10:30 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	10:39 01	1563.4	10.1	329.1	0000.0	209.5	0767.2	10.4	226.1		
09/06	10:54 01	1484.9	09.8	332.2	0000.0	206.6	0733.2	10.2	225.5		
	AVERAGE	1524.2	10.0	330.7	0000.0	208.1	0750.2	10.3	225.8	GOOD HOUR	
09/06	11:09 01	1393.8	09.9	330.7	0000.0	188.3	0920.1	10.7	217.3		
09/06	11:24 01	1197.0	10.3	376.7	0000.0	177.8	0821.0	10.7	200.5		
09/06	11:39 01	0908.4	11.8	323.9	0000.0	172.3	0637.5	12.1	191.5		
09/06	11:54 01	0845.9	11.6	326.3	0000.0	177.4	0555.1	12.1	189.3		
	AVERAGE	1086.3	10.9	339.4	0000.0	179.0	0733.4	11.4	199.6	GOOD HOUR	
09/06	12:09 01	0886.4	10.8	326.7	0000.0	166.6	0614.6	11.1	184.5		
09/06	12:24 01	0900.4	10.4	324.2	0000.0	171.1	0630.4	10.6	185.0		
09/06	12:39 01	0929.7	09.7	331.9	0000.0	168.5	0657.3	09.8	186.1		

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3/8"
EPA Form 2350-4 (4-80)
PREVIOUSLY CIN: EPA FORM 237)
PAGE NUMBER
A-54
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD; BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/06	12:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
		AVERAGE	0905.5	10.3	327.6	0000.0	168.7	0634.1	10.5	185.2	GOOD HOUR	
09/06	13:09	01	0986.9	10.6	330.0	0000.0	169.7	0724.5	10.6	179.4		
09/06	13:24	01	1110.6	09.8	331.3	0000.0	165.1	0655.3	09.8	181.4		
09/06	13:39	01	1044.1	10.4	331.9	0000.0	166.6	0675.2	10.6	179.1		
09/06	13:54	01	1046.7	11.2	334.3	0000.0	224.2	0704.0	11.2	225.4		
		AVERAGE	1047.1	10.5	331.9	0000.0	181.4	0689.8	10.6	191.3	GOOD HOUR	
09/06	14:09	01	1284.8	10.0	330.1	0000.0	210.5	0671.1	10.1	224.7		
09/06	14:24	01	1285.4	10.6	330.0	0000.0	194.6	0675.0	10.6	215.5		
09/06	14:39	01	1252.2	11.0	329.7	0000.0	224.2	0689.1	11.0	213.5		
09/06	14:54	01	1102.6	10.8	330.3	0000.0	250.5	0791.9	11.0	262.0		
		AVERAGE	1231.2	10.6	330.0	0000.0	220.0	0706.8	10.7	228.9	GOOD HOUR	
09/06	15:09	01	1074.6	11.4	330.4	0000.0	184.5	0350.6	11.5	220.3		
09/06	15:24	01	0965.6	11.6	331.0	0000.0	174.7	0230.1	12.2	203.3		
09/06	15:39	01	1029.4	10.8	329.1	0000.0	164.0	0179.0	11.0	191.5		
09/06	15:54	01	1002.2	11.6	329.2	0000.0	159.2	0130.0	11.7	183.9		
		AVERAGE	1018.0	11.4	329.9	0000.0	170.6	0222.4	11.6	199.8	GOOD HOUR	
09/06	16:09	01	1338.0	08.8	333.0	0000.0	164.8	0202.0	09.4	194.4		
09/06	16:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	16:39	01	1018.1	09.4	332.0	0000.0	184.0	0377.4	09.8	216.7		
09/06	16:54	01	1033.4	08.9	333.1	0000.0	176.8	0292.9	09.5	195.8		
		AVERAGE	1129.8	09.0	332.7	0000.0	175.2	0290.8	09.6	202.3	GOOD HOUR	
09/06	17:09	01	1081.3	08.0	334.1	0000.0	169.4	0278.8	08.4	189.2		
09/06	17:24	01	1056.7	08.0	335.3	0000.0	169.6	0216.3	08.4	184.3		
09/06	17:39	01	0869.2	09.6	333.1	0000.0	169.6	0198.4	10.2	182.2		
09/06	17:54	01	0883.2	09.8	333.1	0000.0	169.1	0212.9	10.3	180.0		
		AVERAGE	0972.6	08.9	333.9	0000.0	169.4	0226.6	09.3	183.9	GOOD HOUR	
09/06	18:09	01	0883.8	09.7	333.3	0000.0	170.8	0236.1	10.1	179.8		
09/06	18:24	01	0831.9	10.1	333.1	0000.0	167.2	0206.9	10.1	178.1		
09/06	18:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	18:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
		AVERAGE	0857.9	09.9	333.2	0000.0	169.0	0221.5	10.1	179.0	GOOD HOUR	
09/06	19:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	19:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	19:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	19:54	01	0772.9	10.8	331.5	0000.0	173.8	0214.7	10.8	185.0		
		AVERAGE	0772.9	10.8	331.5	0000.0	173.8	0214.7	10.8	185.0	BAD HOUR	
09/06	20:09	01	0788.5	09.9	332.2	0000.0	173.2	0244.6	10.0	182.8		
09/06	20:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	20:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/06	20:54	01	1132.5	09.1	334.9	0000.0	168.9	0220.8	09.1	178.0		
		AVERAGE	0960.5	09.5	333.6	0000.0	171.1	0232.7	09.6	180.4	GOOD HOUR	

BEGIN LAST LINE OF TEXT
3.8"
EPA Form 2250-4 (4-90)
(PREVIOUSLY CIN: EPA FORM 337)
PAGE NUMBER
A-55
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD. BEGIN SECTION HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/06	21:09	01	1161.1	09.0	336.3	0000.0	169.6	0224.1	09.1	179.7	
09/06	21:24	00	0000.0	00.0	000.0	0000.0	000.0	PPPPPP\			
JSz 09/06	21:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	21:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1161.1	09.0	336.3	0000.0	169.6	0224.1	09.1	179.7	BAD HOUR
09/06	22:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	22:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	22:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	22:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/06	23:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	23:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	23:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/06	23:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:50	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
01:50	10.2E+07	18.2E+05	21.4E-01	00.0E-02	16.8E-01	100	21.8	GOOD HOUR
02:50	12.2E+07	19.1E+05	20.5E-01	00.0E-02	11.4E-01	100	44.7	GOOD HOUR
03:50	95.8E+06	15.0E+05	20.6E-01	00.0E-02	11.4E-01	100	44.8	GOOD HOUR
04:50	95.8E+06	15.4E+05	22.8E-01	00.0E-02	13.7E-01	100	39.9	GOOD HOUR
05:50	91.4E+06	19.2E+05	22.4E-01	00.0E-02	11.2E-01	100	49.8	GOOD HOUR
06:50	10.4E+07	18.2E+05	20.5E-01	00.0E-02	12.9E-01	100	37.1	GOOD HOUR
07:50	10.0E+07	19.4E+05	19.9E-01	00.0E-02	13.1E-01	100	34.1	GOOD HOUR
08:50	83.1E+06	17.2E+05	20.6E-01	00.0E-02	18.6E-01	100	09.8	GOOD HOUR
09:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:54	97.0E+06	18.2E+05	47.4E-01	00.0E-02	24.1E-01	100	49.2	GOOD HOUR
11:54	97.0E+06	19.9E+05	37.0E-01	00.0E-02	26.3E-01	100	28.9	GOOD HOUR
12:54	92.4E+06	17.9E+05	29.1E-01	00.0E-02	20.8E-01	100	28.6	GOOD HOUR
13:54	10.2E+07	20.1E+05	34.3E-01	00.0E-02	22.7E-01	100	33.8	GOOD HOUR
14:54	99.4E+06	19.8E+05	40.7E-01	00.0E-02	23.5E-01	100	42.2	GOOD HOUR
15:54	92.4E+06	19.9E+05	36.3E-01	00.0E-02	81.5E-02	100	77.6	GOOD HOUR
16:54	97.0E+06	16.8E+05	32.4E-01	00.0E-02	87.4E-02	100	73.1	GOOD HOUR
17:54	12.0E+07	20.5E+05	27.5E-01	00.0E-02	66.7E-02	100	75.7	GOOD HOUR
18:54	10.2E+07	19.0E+05	26.6E-01	00.0E-02	69.9E-02	100	73.7	GOOD HOUR
19:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
20:54	10.6E+07	19.1E+05	28.7E-01	00.0E-02	69.8E-02	100	75.7	GOOD HOUR
21:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
22:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
23:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
		AVERAGE	28.0E-01		15.2E-01		46.7	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 7,1980"

SEPT 7,1980

ENTER FILE NAME
? IN9070
ENTER OUTPUT FILE NAME
? OUT9070
ENTER PROCESS DATA FILE NAME
? P9070
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	06280	00000	BT	NO
0200	07760	00000	BT	NO
0300	07020	00000	BT	NO
0400	06470	00000	BT	NO
0500	08690	00000	BT	NO
0600	07210	00000	BT	NO
0700	08500	00000	BT	NO
0800	07950	00000	BT	NO
0900	08180	00000	BT	NO
1000	07990	00000	BT	NO
1100	09140	00000	BT	NO
1200	07990	00000	BT	NO
1300	08180	00000	BT	NO

TYPING GUIDE SHEET
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN. EPA FORM 287)
BEGIN LAST LINE OF TEXT
3/8"
PAGE NUMBER
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD; BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

1400	07800	00000	BT	NO
1500	07800	00000	BT	NO
1600	07800	00000	BT	NO
1700	07610	00000	BT	NO
1800	08560	00000	BT	NO
1900	06850	00000	BT	NO
2000	06660	00000	BT	NO
2100	07420	00000	BT	NO
2200	08370	00000	BT	NO
2300	07230	00000	BT	NO
2400	07040	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/07	00:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	00:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	00:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	00:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/07	01:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	01:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	01:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	01:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/07	02:09	01	1195.7	07.7	330.3	0000.0	161.1	0243.5	08.4	177.3	
09/07	02:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	02:39	01	1004.2	10.3	323.6	0000.0	168.8	0288.7	11.1	189.6	
09/07	02:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1099.9	09.0	327.0	0000.0	165.0	0266.1	09.8	183.5	GOOD HOUR
09/07	03:09	01	1137.8	10.6	329.5	0000.0	198.4	0484.7	10.9	208.3	
09/07	03:24	01	1099.2	10.7	331.5	0000.0	218.0	0606.8	10.8	221.7	
09/07	03:39	01	1148.5	10.2	330.6	0000.0	178.0	0276.0	10.4	207.5	
09/07	03:54	01	1208.3	10.4	331.9	0000.0	224.1	0670.3	10.5	212.5	
		AVERAGE	1148.5	10.5	330.9	0000.0	204.6	0509.5	10.7	212.5	GOOD HOUR
09/07	04:09	01	1171.1	10.5	332.1	0000.0	254.2	0858.2	10.9	262.0	

09/07	04:24	01	1104.5	11.3	330.0	0000.0	263.1	0821.8	11.4	280.6	
09/07	04:39	01	1174.4	10.9	333.4	0000.0	268.8	0859.5	11.1	292.1	
09/07	04:54	01	1205.6	11.0	333.5	0000.0	271.6	0869.2	11.4	297.5	
		AVERAGE	1163.9	10.9	332.3	0000.0	264.4	0852.2	11.2	283.1	GOOD HOUR
09/07	05:09	01	1139.1	11.1	337.4	0000.0	278.1	0823.7	11.6	304.9	
09/07	05:24	01	1094.6	10.9	326.2	0000.0	276.4	0817.4	11.5	308.3	
09/07	05:39	01	1205.0	10.3	336.2	0000.0	277.9	0868.0	10.6	309.7	
09/07	05:54	01	1329.3	09.9	335.9	0000.0	279.6	0867.7	10.0	313.8	
		AVERAGE	1192.0	10.6	333.9	0000.0	278.0	0844.2	10.9	309.2	GOOD HOUR
09/07	06:09	01	1339.9	10.0	334.8	0000.0	279.5	0867.5	10.6	314.0	
09/07	06:24	01	1476.9	09.0	336.0	0000.0	280.9	0867.3	09.7	315.4	
09/07	06:39	01	1305.4	10.0	334.5	0000.0	260.3	0867.1	10.7	315.8	
09/07	06:54	01	1280.8	10.2	335.1	0000.0	281.1	0867.1	10.7	317.5	
		AVERAGE	1350.8	09.8	335.1	0000.0	275.5	0867.3	10.4	315.7	GOOD HOUR
09/07	07:09	01	1283.5	10.3	333.9	0000.0	281.0	0867.0	10.6	317.3	
09/07	07:24	01	1767.5	10.5	332.7	0000.0	280.6	0867.0	10.7	317.0	
09/07	07:39	01	1128.5	10.8	331.6	0000.0	278.1	0835.2	11.1	316.3	
09/07	07:54	01	1121.9	11.0	332.8	0000.0	278.1	0818.7	11.2	316.1	
		AVERAGE	1325.4	10.7	332.8	0000.0	279.5	0847.0	10.9	316.7	GOOD HOUR
09/07	08:09	01	1214.3	10.8	330.8	0000.0	278.3	0861.6	11.1	317.4	
09/07	08:24	01	1215.0	10.8	329.2	0000.0	275.7	0420.8	11.2	313.6	
09/07	08:39	01	1224.9	10.2	332.6	0000.0	276.9	0432.3	10.5	315.5	
09/07	08:54	01	1169.7	11.5	332.3	0000.0	277.8	0399.9	11.6	314.9	
		AVERAGE	1206.0	10.8	331.2	0000.0	277.2	0528.7	11.1	315.4	GOOD HOUR
09/07	09:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	09:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	09:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	09:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/07	10:09	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	10:24	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	10:39	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	10:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/07	11:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	11:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	11:30	01	1061.3	10.2	322.6	0000.0	149.1	0186.9	11.1	176.2	
09/07	11:45	01	0992.2	10.6	314.4	0000.0	143.0	0200.4	11.4	166.6	
		AVERAGE	1026.8	10.4	318.5	0000.0	146.1	0193.6	11.3	171.4	GOOD HOUR
09/07	12:00	01	1037.4	09.7	327.5	0000.0	152.8	0196.2	10.0	174.9	
09/07	12:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	12:30	01	0903.7	10.1	327.5	0000.0	155.9	0222.1	11.1	173.5	

09/07	12:45	01	0821.3	10.7	328.1	0000.0	159.6	0223.6	11.6	175.1		
		AVERAGE	0920.8	10.2	327.7	0000.0	156.1	0214.0	10.9	174.5	GOOD	HOUR
09/07	13:00	01	0877.8	10.1	328.8	0000.0	157.6	0221.0	11.1	174.3		
09/07	13:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/07	13:30	01	1050.0	09.3	329.3	0000.0	154.9	0237.2	10.2	171.6		
09/07	13:45	01	1045.4	09.8	330.0	0000.0	157.5	0255.4	10.6	071.6		
		AVERAGE	0991.1	09.7	329.4	0000.0	156.7	0237.9	10.6	139.2	GOOD	HOUR
09/07	14:00	01	0976.9	10.5	331.3	0000.0	157.8	0255.1	11.4	171.7		
09/07	14:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/07	14:30	01	1037.4	09.5	330.3	0000.0	158.5	0215.5	10.5	170.4		
09/07	14:45	01	1081.3	09.6	330.4	0000.0	160.2	0225.8	10.4	171.5		
		AVERAGE	1031.9	09.9	330.7	0000.0	158.8	0232.1	10.8	171.2	GOOD	HOUR
09/07	15:00	01	1098.6	09.6	327.9	0000.0	159.4	0221.2	10.7	171.4		
09/07	15:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/07	15:30	01	0972.2	10.8	328.6	0000.0	161.9	0194.8	11.6	177.8		
09/07	15:45	01	0954.9	10.8	328.5	0000.0	160.4	0214.6	11.6	172.8		
		AVERAGE	1008.6	10.4	328.3	0000.0	160.6	0210.2	11.3	174.0	GOOD	HOUR
09/07	16:00	01	0887.8	10.9	329.0	0000.0	163.8	0222.6	11.8	174.0		
09/07	16:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/07	16:30	01	1137.2	08.5	329.5	0000.0	165.9	0297.3	08.8	174.5		
09/07	16:45	01	1199.7	08.5	328.1	0000.0	163.7	0271.4	09.0	174.3		
		AVERAGE	1074.9	09.3	328.9	0000.0	164.5	0263.8	09.9	174.3	GOOD	HOUR
09/07	17:00	01	1238.2	08.2	329.6	0000.0	164.1	0289.9	08.7	175.1		
09/07	17:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/07	17:30	01	0970.9	10.4	327.9	0000.0	163.3	0185.6	11.4	174.5		
09/07	17:45	01	0971.9	10.7	328.1	0000.0	164.0	0203.6	11.7	176.0		
		AVERAGE	1060.3	09.8	328.5	0000.0	163.8	0226.4	10.6	175.2	GOOD	HOUR
09/07	18:00	01	0880.0	10.7	327.6	0000.0	163.9	0220.0	11.8	176.1		
09/07	18:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/07	18:30	01	0841.2	10.9	327.3	0000.0	162.1	0230.2	11.9	176.8		
09/07	18:45	01	0860.5	10.9	329.3	0000.0	164.9	0243.9	11.8	178.7		
		AVERAGE	0860.6	10.8	328.1	0000.0	163.6	0231.4	11.8	177.2	GOOD	HOUR
09/07	19:00	01	0773.4	11.4	328.6	0000.0	165.4	0223.4	12.3	178.7		
09/07	19:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/07	19:30	01	0797.3	10.5	333.5	0000.0	184.4	0374.1	11.6	183.6		
09/07	19:45	01	0851.9	10.3	329.3	0000.0	174.3	0239.1	11.0	182.9		
		AVERAGE	0807.5	10.7	330.5	0000.0	174.7	0278.9	11.6	181.7	GOOD	HOUR
09/07	20:00	01	0828.6	10.6	331.3	0000.0	170.7	0199.7	11.4	181.3		
09/07	20:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/07	20:30	01	0801.3	10.3	334.9	0000.0	170.0	0237.7	11.4	180.0		
09/07	20:45	01	0839.2	10.0	333.6	0000.0	169.7	0231.7	11.3	178.1		
		AVERAGE	0823.0	10.3	333.3	0000.0	170.1	0223.0	11.4	179.8	GOOD	HOUR

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
A-60
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TYPING GUIDE SHEET

BEGIN LAST LINE OF TEXT
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DROPPED HEAD: BEGIN SECTIONS HERE
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 242)
PAGE NUMBER
CENTER OF PAGE
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA

09/07	21:00	01	0920.4	10.0	333.4	0000.0	169.3	0240.4	10.6	178.0	
09/07	21:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	21:30	01	1044.1	09.3	335.5	0000.0	169.3	0253.4	10.0	177.6	
09/07	21:45	01	0962.3	10.1	332.2	0000.0	167.3	0220.0	11.3	176.8	
		AVERAGE	0975.6	09.8	333.7	0000.0	168.6	0237.9	10.6	177.5	GOOD HOUR
09/07	22:00	01	0936.3	10.6	335.3	0000.0	168.5	0222.9	11.7	178.0	
09/07	22:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	22:30	01	0888.8	10.7	334.0	0000.0	168.5	0216.5	12.0	176.9	
09/07	22:45	01	0823.9	11.1	333.2	0000.0	169.3	0223.9	12.3	177.6	
		AVERAGE	0883.0	10.8	334.2	0000.0	168.8	0221.1	12.0	177.5	GOOD HOUR
09/07	23:00	01	0867.2	10.8	333.1	0000.0	169.4	0247.8	11.2	179.8	
09/07	23:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/07	23:30	01	0885.1	10.5	334.7	0000.0	168.8	0235.2	11.7	178.7	
09/07	23:45	01	0893.8	10.4	333.9	0000.0	168.3	0226.3	11.8	177.9	
		AVERAGE	0882.0	10.6	333.9	0000.0	168.8	0236.4	11.6	178.8	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
01:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
02:54	87.8E+06	15.1E+05	31.5E-01	00.0E-02	81.3E-02	100	74.2	GOOD HOUR
03:54	80.9E+06	15.9E+05	37.5E-01	00.0E-02	16.9E-01	100	54.9	GOOD HOUR
04:54	10.9E+07	22.3E+05	39.8E-01	00.0E-02	29.9E-01	100	24.7	GOOD HOUR
05:54	90.1E+06	17.9E+05	39.2E-01	00.0E-02	28.8E-01	100	26.5	GOOD HOUR
06:54	10.6E+07	19.6E+05	41.5E-01	00.0E-02	28.2E-01	100	32.0	GOOD HOUR
07:54	99.4E+06	19.9E+05	44.1E-01	00.0E-02	28.9E-01	100	34.5	GOOD HOUR
08:54	10.2E+07	20.8E+05	40.8E-01	00.0E-02	18.4E-01	100	54.9	GOOD HOUR
09:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:54	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
11:45	99.9E+06	19.5E+05	33.3E-01	00.0E-02	68.4E-02	100	79.5	GOOD HOUR
12:45	10.2E+07	19.6E+05	29.2E-01	00.0E-02	72.9E-02	100	75.1	GOOD HOUR
13:45	97.5E+06	17.9E+05	30.2E-01	00.0E-02	78.9E-02	100	73.9	GOOD HOUR
14:45	97.5E+06	18.1E+05	31.9E-01	00.0E-02	78.0E-02	100	75.5	GOOD HOUR
15:45	97.5E+06	19.1E+05	32.7E-01	00.0E-02	74.6E-02	100	77.2	GOOD HOUR
16:45	95.1E+06	16.8E+05	31.6E-01	00.0E-02	81.4E-02	100	74.2	GOOD HOUR
17:45	10.7E+07	19.7E+05	32.4E-01	00.0E-02	74.9E-02	100	76.9	GOOD HOUR
18:45	85.6E+06	17.5E+05	29.1E-01	00.0E-02	86.9E-02	100	70.1	GOOD HOUR
19:45	83.3E+06	16.8E+05	27.1E-01	00.0E-02	10.3E-01	100	62.1	GOOD HOUR
20:45	92.8E+06	18.0E+05	26.5E-01	00.0E-02	79.7E-02	100	69.9	GOOD HOUR
21:45	10.5E+07	19.3E+05	29.9E-01	00.0E-02	79.0E-02	100	73.6	GOOD HOUR
22:45	90.4E+06	18.4E+05	29.8E-01	00.0E-02	84.6E-02	100	71.6	GOOD HOUR
23:45	88.0E+06	17.5E+05	29.1E-01	00.0E-02	86.3E-02	100	70.3	GOOD HOUR
		AVERAGE	33.4E-01		13.2E-01		62.6	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 8,1980"

SEPT 8,1980

ENTER FILE NAME
? IN9080
ENTER OUTPUT FILE NAME
? OUT9080
ENTER PROCESS DATA FILE NAME
? P9080
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	06660	00000	BT	NO
0200	06850	00000	BT	NO
0300	07610	00000	BT	NO
0400	07800	00000	BT	NO
0500	07800	00000	BT	NO
0600	07990	00000	BT	NO
0700	06850	00000	BT	NO
0800	08760	00000	BT	NO
0900	08050	00000	BT	NO
1000	08730	00000	BT	NO
1100	07540	00000	BT	NO
1200	05990	00000	BT	NO
1300	06850	00000	BT	NO

BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD. BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BEGIN LAST LINE OF TEXT
3/8"
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
TYPING GUIDE SHEET

1400	07360	00000	BT	NO
1500	06170	00000	BT	NO
1600	06340	00000	BT	NO
1700	06510	00000	BT	NO
1800	06850	00000	BT	NO
1900	07360	00000	BT	NO
2000	07190	00000	BT	NO
2100	05990	00000	BT	NO
2200	06850	00000	BT	NO
2300	06170	00000	BT	NO
2400	05990	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/08	00:00	01	0765.4	11.4	338.1	0000.0	168.2	0203.4	12.9	179.3	
09/08	00:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	00:30	01	0734.2	11.4	334.1	0000.0	167.3	0227.4	12.9	178.2	
09/08	00:45	01	0917.0	10.0	334.1	0000.0	169.3	0275.6	11.0	179.7	
		AVERAGE	0805.5	10.9	335.4	0000.0	168.3	0235.5	12.3	179.1	GOOD HOUR
09/08	01:00	01	0952.9	09.9	334.7	0000.0	168.1	0256.0	10.8	177.4	
09/08	01:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	01:30	01	0955.6	09.4	335.7	0000.0	185.2	0400.2	10.5	187.8	
09/08	01:45	01	0916.4	09.8	330.2	0000.0	166.9	0260.7	10.9	190.4	
		AVERAGE	0941.6	09.7	333.5	0000.0	173.4	0305.6	10.7	185.2	GOOD HOUR
09/08	02:00	01	0772.1	10.7	330.6	0000.0	174.4	0209.4	12.1	188.0	
09/08	02:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	02:30	01	0681.0	10.7	332.7	0000.0	169.2	0316.5	11.9	179.6	
09/08	02:45	01	0676.3	10.8	329.8	0000.0	168.3	0240.3	12.1	176.8	
		AVERAGE	0709.8	10.7	331.0	0000.0	170.6	0255.4	12.0	181.5	GOOD HOUR
09/08	03:00	01	0615.8	11.4	331.2	0000.0	168.5	0234.5	12.7	177.6	
09/08	03:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	03:30	01	0737.5	10.6	332.5	0000.0	168.1	0249.2	11.5	177.3	
09/08	03:45	01	0819.9	09.7	331.8	0000.0	167.9	0250.6	10.5	176.5	
		AVERAGE	0724.4	10.6	331.8	0000.0	168.2	0244.8	11.6	177.1	GOOD HOUR
09/08	04:00	01	0891.1	09.0	331.6	0000.0	168.3	0252.6	09.5	174.9	

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3/8"
EPA Form 2350-4 (4-90)
(PREVIOUSLY CIN: EPA FORM 287)
PAGE NUMBER
A-63
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/08	04:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	04:30	01	0863.8	09.5	334.3	0000.0	168.0	0241.8	10.1	174.3	
09/08	04:45	01	0710.2	10.8	335.5	0000.0	169.9	0211.3	11.7	176.4	
		AVERAGE	0821.7	09.8	333.8	0000.0	168.7	0235.2	10.4	175.2	GOOD HOUR
09/08	05:00	01	0681.0	11.0	335.0	0000.0	171.7	0230.7	12.2	178.6	
09/08	05:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	05:30	01	0891.1	09.5	337.3	0000.0	168.6	0262.8	10.5	177.8	
09/08	05:45	01	0883.1	09.3	335.8	0000.0	165.2	0244.1	10.4	175.1	
		AVERAGE	0818.4	09.9	336.0	0000.0	168.5	0245.9	11.0	177.2	GOOD HOUR
09/08	06:00	01	0958.9	08.8	335.8	0000.0	162.4	0234.3	09.6	173.0	
09/08	06:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	06:30	01	0937.7	09.5	336.5	0000.0	162.2	0281.0	10.2	175.0	
09/08	06:45	01	0897.1	10.0	336.0	0000.0	165.2	0298.6	11.2	175.3	
		AVERAGE	0931.2	09.4	336.1	0000.0	163.3	0271.3	10.3	174.4	GOOD HOUR
09/08	07:00	01	0941.0	09.4	336.1	0000.0	162.5	0261.5	10.7	174.2	
09/08	07:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	07:30	01	0976.9	09.2	335.8	0000.0	155.8	0230.4	10.2	171.6	
09/08	07:45	01	1056.0	08.7	336.9	0000.0	155.0	0262.1	09.8	171.0	
		AVERAGE	0991.3	09.1	336.3	0000.0	157.8	0251.3	10.2	172.3	GOOD HOUR
09/08	08:00	01	1129.8	08.7	336.2	0000.0	153.8	0246.7	10.0	169.8	
09/08	08:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	08:30	01	1091.9	08.8	333.8	0000.0	152.7	0243.3	09.7	168.9	
09/08	08:45	01	1156.7	08.5	334.9	0000.0	150.3	0199.7	09.0	167.7	
		AVERAGE	1126.1	08.7	335.0	0000.0	152.3	0229.9	09.6	168.8	GOOD HOUR
09/08	09:00	01	1146.0	08.6	333.6	0000.0	148.1	0275.0	09.2	164.6	
09/08	09:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	09:30	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	09:45	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1146.0	08.6	333.6	0000.0	148.1	0275.0	09.2	164.6	BAD HOUR
09/08	10:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	10:40	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	10:44	01	0796.2	12.4	334.6	0000.0	159.9	0203.6	14.3	169.8	
09/08	10:50	01	0980.4	10.8	338.5	0000.0	157.6	0286.8	12.3	170.4	
		AVERAGE	0888.3	11.6	336.6	0000.0	158.8	0245.2	13.3	170.1	GOOD HOUR
09/08	11:05	01	0819.4	11.4	336.5	0000.0	158.8	0250.8	12.6	170.1	
09/08	11:20	01	0702.4	12.4	335.1	0000.0	162.5	0256.6	14.1	172.4	
09/08	11:35	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	11:42	01	0888.0	10.4	321.4	0000.0	173.2	0374.3	17.1	186.6	
		AVERAGE	0803.3	11.4	331.0	0000.0	164.8	0293.9	14.6	176.4	GOOD HOUR
09/08	12:02	01	1168.0	10.1	333.9	0000.0	174.2	0342.1	11.0	192.5	
09/08	12:17	01	0987.7	09.9	322.0	0000.0	156.7	0168.2	10.8	176.8	
09/08	12:32	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

09/08	12:47 01	1046.9	09.1	333.0	0000.0	161.6	0274.4	10.6	179.0	
	AVERAGE	1067.5	09.7	329.6	0000.0	164.2	0261.6	10.8	182.8	GOOD HOUR
09/08	13:02 01	1140.0	08.6	335.0	0000.0	160.8	0308.4	09.4	179.2	
09/08	13:17 01	1005.7	09.8	334.2	0000.0	159.5	0253.4	10.5	177.4	
09/08	13:32 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/08	13:47 01	0889.3	11.3	334.8	0000.0	159.6	0242.5	12.1	177.4	
	AVERAGE	1011.7	09.9	334.7	0000.0	160.0	0268.1	10.7	178.0	GOOD HOUR
09/08	14:13 01	1062.2	10.9	332.4	0000.0	157.6	0278.4	11.5	175.1	
09/08	14:28 01	0940.5	11.0	333.7	0000.0	159.0	0267.7	11.7	175.8	
09/08	14:43 01	0881.3	10.9	333.1	0000.0	159.1	0259.4	12.0	175.6	
09/08	14:58 01	0972.4	10.6	333.2	0000.0	160.1	0274.1	11.6	176.1	
	AVERAGE	0964.1	10.8	333.1	0000.0	159.0	0269.9	11.7	175.6	GOOD HOUR
09/08	15:13 01	0949.8	10.7	332.2	0000.0	157.7	0270.4	11.5	174.9	
09/08	15:28 01	0897.9	10.8	331.9	0000.0	159.1	0247.6	11.7	175.5	
09/08	15:43 01	0785.5	11.1	330.3	0000.0	158.4	0240.3	11.9	174.4	
09/08	15:58 01	0769.6	10.8	332.2	0000.0	160.1	0268.3	11.7	175.5	
	AVERAGE	0850.7	10.8	331.6	0000.0	158.8	0256.7	11.7	175.1	GOOD HOUR
09/08	16:13 01	0792.8	10.6	330.8	0000.0	159.1	0258.6	14.5	175.2	
09/08	16:28 01	0915.2	10.4	331.3	0000.0	159.6	0297.6	11.0	175.3	
09/08	16:43 01	0844.7	10.5	332.4	0000.0	159.3	0262.2	11.1	175.7	
09/08	16:58 01	0838.1	10.7	335.5	0000.0	160.8	0253.0	11.7	179.9	
	AVERAGE	0847.7	10.6	332.5	0000.0	159.7	0267.9	12.1	176.5	GOOD HOUR
09/08	17:13 01	0892.6	10.7	336.4	0000.0	169.0	0326.9	11.6	179.2	
09/08	17:28 01	0997.7	10.1	333.3	0000.0	169.0	0352.7	10.5	182.0	
09/08	17:43 01	1011.0	09.8	333.5	0000.0	163.4	0304.6	10.4	176.2	
09/08	17:58 01	1100.1	09.4	334.3	0000.0	163.4	0331.2	10.2	175.8	
	AVERAGE	1000.3	10.0	334.4	0000.0	166.2	0328.9	10.7	178.3	GOOD HOUR
09/08	18:13 01	1066.2	09.5	334.6	0000.0	180.8	0520.4	10.3	187.0	
09/08	18:28 01	0810.8	10.0	333.7	0000.0	186.6	0372.5	10.7	195.8	
09/08	18:43 01	0564.7	09.2	328.4	0000.0	179.2	0221.0	09.9	211.0	
09/08	18:58 01	0494.2	09.0	326.7	0000.0	174.6	0190.6	09.5	196.5	
	AVERAGE	0734.0	09.4	330.9	0000.0	180.3	0326.1	10.1	197.6	GOOD HOUR
09/08	19:13 01	0446.3	10.6	327.8	0000.0	168.5	0222.6	12.0	187.7	
09/08	19:28 01	0383.1	10.7	327.2	0000.0	167.8	0232.5	12.0	183.6	
09/08	19:43 01	0302.6	11.2	330.3	0000.0	170.7	0239.5	12.4	184.3	
09/08	19:58 01	0289.3	11.7	331.3	0000.0	170.3	0245.9	12.9	183.1	
	AVERAGE	0355.3	11.1	329.2	0000.0	169.3	0235.1	12.3	184.7	GOOD HOUR
09/08	20:13 01	0441.0	09.9	333.1	0000.0	169.3	0273.4	10.9	182.2	
09/08	20:28 01	0818.1	09.2	332.2	0000.0	167.7	0355.8	09.9	180.3	
09/08	20:43 01	0960.5	09.3	333.9	0000.0	168.1	0350.9	10.0	180.0	
09/08	20:58 01	0913.9	10.5	334.0	0000.0	168.5	0279.9	11.5	178.9	
	AVERAGE	0783.4	09.7	333.3	0000.0	168.4	0315.0	10.6	180.4	GOOD HOUR

09/08	21:13	01	0898.6	10.7	333.9	0000.0	166.3	0229.2	11.8	176.6	
09/08	21:28	01	0878.6	10.8	334.6	0000.0	165.2	0213.5	12.2	176.6	
09/08	21:43	01	0889.3	10.8	334.4	0000.0	165.4	0244.5	12.0	177.4	
09/08	21:58	01	0868.0	11.0	332.3	0000.0	165.7	0240.7	12.2	178.9	
		AVERAGE	0883.6	10.8	333.8	0000.0	165.7	0232.0	12.1	177.4	GOOD HOUR
09/08	22:13	01	0858.7	11.1	334.6	0000.0	166.0	0233.7	12.3	178.9	
09/08	22:28	01	0910.6	10.9	334.3	0000.0	167.3	0246.0	12.2	179.2	
09/08	22:43	01	0825.4	11.0	332.4	0000.0	164.7	0213.9	12.3	178.6	
09/08	22:58	01	0830.8	11.1	333.1	0000.0	166.4	0252.0	12.4	178.3	
		AVERAGE	0856.4	11.0	333.6	0000.0	166.1	0236.4	12.3	178.8	GOOD HOUR
09/08	23:13	01	0828.1	10.9	333.3	0000.0	167.0	0259.0	12.3	178.6	
09/08	23:28	01	0648.5	11.5	331.2	0000.0	165.2	0214.4	13.1	177.4	
09/08	23:43	01	0667.8	11.0	333.9	0000.0	167.8	0245.1	12.5	178.7	
09/08	23:58	01	0692.4	10.9	332.5	0000.0	166.7	0261.6	12.4	178.5	
		AVERAGE	0709.2	11.1	332.7	0000.0	166.7	0245.0	12.6	178.3	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:45	83.3E+06	17.1E+05	27.5E-01	00.0E-02	92.9E-02	100	66.3	GOOD HOUR
01:45	85.6E+06	15.7E+05	28.6E-01	00.0E-02	10.2E-01	100	64.2	GOOD HOUR
02:45	95.1E+06	19.2E+05	23.8E-01	00.0E-02	98.1E-02	100	58.7	GOOD HOUR
03:45	97.5E+06	19.4E+05	23.9E-01	00.0E-02	89.3E-02	100	62.6	GOOD HOUR
04:45	97.5E+06	18.0E+05	25.1E-01	00.0E-02	76.6E-02	100	69.5	GOOD HOUR
05:45	99.9E+06	18.7E+05	25.4E-01	00.0E-02	84.9E-02	100	66.6	GOOD HOUR
06:45	85.6E+06	15.3E+05	27.7E-01	00.0E-02	87.5E-02	100	68.4	GOOD HOUR
07:45	11.0E+07	19.0E+05	28.6E-01	00.0E-02	80.3E-02	100	72.0	GOOD HOUR
08:45	10.1E+07	16.9E+05	31.4E-01	00.0E-02	69.1E-02	100	78.0	GOOD HOUR
09:45	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:50	94.3E+06	20.8E+05	32.5E-01	00.0E-02	11.0E-01	100	66.2	GOOD HOUR
11:42	74.9E+06	16.2E+05	28.8E-01	00.0E-02	15.9E-01	100	44.8	GOOD HOUR
12:47	85.6E+06	15.7E+05	32.5E-01	00.0E-02	88.2E-02	100	72.8	GOOD HOUR
13:47	92.0E+06	17.2E+05	31.3E-01	00.0E-02	89.3E-02	100	71.5	GOOD HOUR
14:58	77.1E+06	15.8E+05	32.7E-01	00.0E-02	99.9E-02	100	69.4	GOOD HOUR
15:58	79.3E+06	16.2E+05	28.8E-01	00.0E-02	95.0E-02	100	67.0	GOOD HOUR
16:58	81.4E+06	16.1E+05	27.9E-01	00.0E-02	10.3E-01	100	62.9	GOOD HOUR
17:58	85.6E+06	16.1E+05	31.3E-01	00.0E-02	11.0E-01	100	65.0	GOOD HOUR
18:58	92.0E+06	16.5E+05	21.8E-01	00.0E-02	10.3E-01	100	52.8	GOOD HOUR
19:58	89.9E+06	18.7E+05	12.3E-01	00.0E-02	93.4E-02	100	24.0	GOOD HOUR
20:58	74.9E+06	13.8E+05	23.9E-01	00.0E-02	10.4E-01	100	56.5	GOOD HOUR
21:58	85.6E+06	17.4E+05	29.9E-01	00.0E-02	89.3E-02	100	70.1	GOOD HOUR
22:58	77.1E+06	16.0E+05	29.5E-01	00.0E-02	93.7E-02	100	68.3	GOOD HOUR
23:58	74.9E+06	15.6E+05	24.6E-01	00.0E-02	10.0E-01	100	59.2	GOOD HOUR
		AVERAGE	27.4E-01		96.5E-02		63.3	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT  9,1980"

                                                    SEPT  9,1980

ENTER FILE NAME
 ? IN9090
ENTER OUTPUT FILE NAME
 ? OUT9090
ENTER PROCESS DATA FILE NAME
 ? P9090
ENTER HEAT INPUT CONTENT
 ? 12500
   TIME    COAL RATE    STM RATE    COAL TYPE   UPSET CON
             LB/HR        LB/HR

   0100      09080        00000        BT          NO
   0200      08730        00000        BT          NO
   0300      08560        00000        BT          NO
   0400      09420        00000        BT          NO
   0500      08560        00000        BT          NO
   0600      08050        00000        BT          NO
   0700      08560        00000        BT          NO
   0800      07880        00000        BT          NO
   0900      09433        00000        BT          NO
   1000      09633        00000        BT          NO
   1100      08028        00000        BT          NO
   1200      08831        00000        BT          NO
   1300      09433        00000        BT          NO
```

1400	08429	00000	BT	NO
1500	09031	00000	BT	NO
1600	00963	00000	BT	NO
1700	10636	00000	BT	NO
1800	09834	00000	BT	NO
1900	09232	00000	BT	NO
2000	09629	00000	BT	NO
2100	07626	00000	BT	NO
2200	09031	00000	BT	NO
2300	11038	00000	BT	NO
2400	11038	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/09	00:13	01	0716.2	10.9	333.6	0000.0	166.1	0268.9	12.4	179.0	
09/09	00:28	01	0651.7	11.2	334.6	0000.0	167.3	0245.5	12.7	178.8	
09/09	00:43	01	0696.9	10.7	334.0	0000.0	167.2	0268.2	12.4	178.7	
09/09	00:58	01	0785.4	10.8	336.7	0000.0	167.3	0293.3	12.5	179.5	
		AVERAGE	0712.6	10.9	334.7	0000.0	167.0	0269.0	12.5	179.0	GOOD HOUR
09/09	01:13	01	0724.2	10.7	336.3	0000.0	169.2	0245.2	11.6	177.8	
09/09	01:28	01	0659.0	10.7	335.2	0000.0	167.0	0241.9	12.2	177.7	
09/09	01:43	01	0617.1	10.2	333.8	0000.0	167.3	0246.0	11.7	177.9	
09/09	01:58	01	0635.7	10.0	333.9	0000.0	167.3	0259.7	11.3	178.4	
		AVERAGE	0659.0	10.4	334.8	0000.0	167.7	0248.2	11.7	178.0	GOOD HOUR
09/09	02:13	01	0596.5	10.1	325.0	0000.0	199.8	0338.4	11.1	200.2	
09/09	02:28	01	0573.2	10.2	327.9	0000.0	167.3	0192.7	11.4	184.6	
09/09	02:43	01	0520.0	09.8	328.8	0000.0	165.8	0217.0	11.3	180.7	
09/09	02:58	01	0530.0	09.7	329.4	0000.0	165.0	0245.5	11.0	180.0	
		AVERAGE	0554.9	10.0	327.8	0000.0	174.5	0248.4	11.2	186.4	GOOD HOUR
09/09	03:13	01	0553.3	09.9	328.7	0000.0	164.0	0256.0	11.2	178.3	
09/09	03:28	01	0578.6	09.9	328.5	0000.0	164.4	0252.4	11.4	177.4	
09/09	03:43	01	0543.3	10.0	329.6	0000.0	164.2	0248.9	11.5	177.0	
09/09	03:58	01	0604.5	10.0	330.5	0000.0	165.2	0266.9	11.4	177.0	
		AVERAGE	0569.9	10.0	329.3	0000.0	164.5	0256.0	11.4	177.4	GOOD HOUR
09/09	04:13	01	0673.0	09.7	330.3	0000.0	164.9	0269.6	11.2	176.8	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2250-4 (4-80) (PREVIOUSLY CIN, EPA FORM 287)
PAGE NUMBER
A-68
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTION HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/09	04:28 01	0724.2	09.4	331.5	0000.0	164.8	0273.7	10.7	177.2		
09/09	04:43 01	0730.8	09.6	329.5	0000.0	164.1	0255.2	10.9	176.8		
09/09	04:58 01	0764.1	09.7	330.1	0000.0	163.8	0264.5	11.0	176.2		
	AVERAGE	0723.0	09.6	330.4	0000.0	164.4	0265.8	11.0	176.8	GOOD HOUR	
09/09	05:13 01	0803.3	09.8	332.8	0000.0	165.1	0262.8	11.2	176.0		
09/09	05:28 01	0839.2	09.8	331.3	0000.0	161.9	0261.4	11.1	174.9		
09/09	05:43 01	0708.2	10.2	331.1	0000.0	162.4	0228.2	11.5	174.8		
09/09	05:58 00	0000.0	10.9	330.2	0000.0	162.2	0224.5	12.4	174.2		
	AVERAGE	0783.6	13.6	441.8	0000.0	217.2	0325.6	15.4	233.3	GOOD HOUR	
09/09	06:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	06:28 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	06:43 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	06:58 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/09	07:13 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	07:28 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	07:43 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	07:58 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/09	08:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	08:24 01	1145.8	10.7	332.5	0000.0	157.3	0361.8	09.5	170.7		
09/09	08:39 00	0000.0	00.0	334.7	0000.0	159.2	0000.0	00.0	173.7		
09/09	08:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1145.8	10.7	667.2	0000.0	316.5	0361.8	09.5	344.4	BAD HOUR	
09/09	09:14 01	1221.6	10.8	336.3	0000.0	159.8	0372.7	12.1	173.7		
09/09	09:22 01	1158.4	08.8	340.2	0000.0	161.0	0382.6	10.7	175.6		
09/09	09:37 01	1076.0	09.7	332.2	0000.0	154.6	0286.0	11.7	169.2		
09/09	09:45 01	0934.3	10.5	334.6	0000.0	159.6	0261.1	12.8	174.9		
	AVERAGE	1097.6	10.0	335.8	0000.0	158.8	0325.6	11.8	173.4	GOOD HOUR	
09/09	10:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	10:35 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	10:50 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	11:05 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/09	11:10 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	11:25 01	1059.3	08.8	319.1	0000.0	178.1	0477.5	09.3	189.3		
09/09	11:40 01	0901.7	09.6	322.8	0000.0	163.9	0356.6	10.2	182.9		
09/09	11:55 01	0893.8	09.2	326.2	0000.0	154.2	0224.2	09.6	176.2		
	AVERAGE	0951.6	09.2	322.7	0000.0	165.4	0352.8	09.7	182.8	GOOD HOUR	
09/09	12:10 01	0810.0	09.6	324.3	0000.0	152.2	0221.4	09.9	170.7		
09/09	12:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	12:35 01	0859.8	09.4	327.3	0000.0	152.6	0302.0	11.2	170.7		

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN: EPA FORM 221)
PAGE NUMBER
A-69
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA
TYPING GUIDE SHEET

09/09	12:50	01	0752.8	09.8	327.1	0000.0	153.3	0314.7	10.4	170.1		
		AVERAGE	0807.5	09.6	326.2	0000.0	152.7	0279.4	10.5	170.5	GOOD HOUR	
09/09	13:05	00	0000.0	00.0	328.1	0000.0	154.1	0000.0	00.0	169.8		
09/09	13:20	01	0572.6	10.6	325.9	0000.0	153.7	0298.5	11.6	171.0		
09/09	13:35	01	0671.0	10.0	326.8	0000.0	154.2	0345.9	10.6	171.0		
09/09	13:50	01	0816.6	09.5	325.5	0000.0	150.2	0372.6	10.2	167.9		
		AVERAGE	0686.7	10.0	435.4	0000.0	204.1	0339.0	10.8	226.6	GOOD HOUR	
09/09	14:06	01	0811.3	09.5	323.9	0000.0	152.3	0350.7	10.3	170.0		
09/09	14:21	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	14:39	01	1037.4	09.0	326.2	0000.0	158.1	0386.7	09.3	167.7		
09/09	14:54	01	1116.5	08.6	327.5	0000.0	151.0	0360.7	09.0	168.6		
		AVERAGE	0988.4	09.0	325.9	0000.0	153.8	0366.0	09.5	168.8	GOOD HOUR	
09/09	15:09	01	1129.8	08.4	327.9	0000.0	150.8	0396.6	08.9	168.0		
09/09	15:24	01	1182.4	08.6	326.9	0000.0	149.9	0345.9	08.7	166.6		
09/09	15:39	01	1288.1	08.1	328.2	0000.0	150.8	0408.9	08.3	166.9		
09/09	15:54	01	1322.7	07.9	328.9	0000.0	150.5	0416.3	07.9	167.3		
		AVERAGE	1230.8	08.3	328.0	0000.0	150.5	0391.9	08.5	167.2	GOOD HOUR	
09/09	16:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	16:16	01	1322.7	07.8	328.4	0000.0	150.9	0331.0	08.6	166.9		
09/09	16:31	01	1216.3	07.8	329.1	0000.0	151.4	0299.6	08.6	167.2		
09/09	16:46	01	1240.9	07.6	330.8	0000.0	151.9	0323.2	08.3	168.0		
		AVERAGE	1260.0	07.7	329.4	0000.0	151.4	0317.9	08.5	167.4	GOOD HOUR	
09/09	17:01	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	17:16	01	1032.7	08.9	331.3	0000.0	150.6	0311.6	10.2	168.6		
09/09	17:31	01	1106.6	08.4	332.4	0000.0	151.0	0327.3	09.7	168.7		
09/09	17:46	01	1087.9	08.6	329.3	0000.0	150.3	0249.5	09.8	167.7		
		AVERAGE	1075.7	08.6	331.0	0000.0	150.6	0296.1	09.9	168.3	GOOD HOUR	
09/09	18:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	18:24	01	1163.8	08.6	331.3	0000.0	152.2	0343.1	09.8	169.6		
09/09	18:39	01	1020.8	09.1	332.3	0000.0	152.9	0327.8	10.1	169.1		
09/09	18:54	01	0956.3	09.5	330.7	0000.0	152.2	0317.9	10.4	168.9		
		AVERAGE	1047.0	09.1	331.4	0000.0	152.4	0329.6	10.1	169.2	GOOD HOUR	
09/09	19:09	01	0889.1	09.5	330.3	0000.0	150.8	0312.2	10.6	167.5		
09/09	19:24	01	0838.6	09.6	329.6	0000.0	150.6	0307.6	10.8	167.3		
09/09	19:39	01	0832.6	09.7	331.7	0000.0	152.5	0322.5	11.0	169.0		
09/09	19:54	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
		AVERAGE	0853.4	09.6	330.5	0000.0	151.3	0314.1	10.8	167.9	GOOD HOUR	
09/09	20:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/09	20:18	01	0699.6	10.3	331.7	0000.0	175.1	0511.4	11.4	179.9		
09/09	20:33	01	0794.0	09.9	328.8	0000.0	166.7	0320.7	10.7	189.8		
09/09	20:48	01	0817.3	09.2	328.4	0000.0	156.3	0299.5	10.1	176.0		
		AVERAGE	0770.3	09.8	329.6	0000.0	166.0	0377.2	10.7	181.9	GOOD HOUR	

09/09	21:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/09	21:18	01	0708.2	08.9	329.4	0000.0	154.5	0328.0	09.2	171.5	
09/09	21:33	01	0816.0	08.5	329.6	0000.0	153.1	0334.8	08.7	168.9	
09/09	21:48	01	0929.0	08.0	328.9	0000.0	153.1	0359.1	07.9	168.7	
		AVERAGE	0817.7	08.5	329.3	0000.0	153.6	0340.6	08.6	169.7	GOOD HOUR
09/09	22:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/09	22:18	01	0939.0	08.0	311.0	0000.0	146.6	0321.5	08.1	167.4	
09/09	22:33	01	0954.3	08.0	322.4	0000.0	148.9	0327.6	08.1	168.4	
09/09	22:48	01	0927.0	08.0	326.7	0000.0	148.6	0317.9	08.1	167.1	
		AVERAGE	0940.1	08.0	320.0	0000.0	148.0	0322.3	08.1	167.6	GOOD HOUR
09/09	22:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/09	22:18	01	0856.5	08.2	330.5	0000.0	149.4	0311.1	08.2	166.6	
09/09	22:33	01	0872.5	07.8	326.2	0000.0	148.0	0328.2	07.8	167.1	
09/09	22:48	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0864.5	08.0	328.4	0000.0	148.7	0319.7	08.0	166.9	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:58	11.4E+07	23.3E+05	24.3E-01	00.0E-02	10.9E-01	100	55.1	GOOD HOUR
01:58	10.9E+07	21.3E+05	21.4E-01	00.0E-02	91.9E-02	100	57.0	GOOD HOUR
02:58	10.7E+07	20.1E+05	17.3E-01	00.0E-02	87.2E-02	100	49.5	GOOD HOUR
03:58	11.8E+07	22.1E+05	17.7E-01	00.0E-02	91.6E-02	100	48.4	GOOD HOUR
04:58	10.7E+07	19.4E+05	21.8E-01	00.0E-02	91.0E-02	100	58.3	GOOD HOUR
05:58	10.1E+07	28.2E+05	36.4E-01	00.0E-02	20.2E-01	100	44.6	GOOD HOUR
06:58	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
07:58	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
08:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
09:45	12.0E+07	22.6E+05	34.1E-01	00.0E-02	12.2E-01	100	64.2	GOOD HOUR
11:05	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
11:55	11.0E+07	19.4E+05	27.7E-01	00.0E-02	10.7E-01	100	61.3	GOOD HOUR
12:50	11.8E+07	21.4E+05	24.3E-01	00.0E-02	91.5E-02	100	62.4	GOOD HOUR
13:50	10.5E+07	19.9E+05	21.5E-01	00.0E-02	11.4E-01	100	46.9	GOOD HOUR
14:54	11.3E+07	19.5E+05	28.4E-01	00.0E-02	11.0E-01	100	61.3	GOOD HOUR
15:54	12.0E+06	19.5E+04	33.1E-01	00.0E-02	10.7E-01	100	67.6	GOOD HOUR
16:46	13.3E+07	20.7E+05	32.6E-01	00.0E-02	87.4E-02	100	73.2	GOOD HOUR
17:46	12.3E+07	20.6E+05	29.9E-01	00.0E-02	91.7E-02	100	69.3	GOOD HOUR
18:54	11.5E+07	20.0E+05	30.1E-01	00.0E-02	10.4E-01	100	65.5	GOOD HOUR
19:54	12.0E+07	21.9E+05	25.7E-01	00.0E-02	10.6E-01	100	58.8	GOOD HOUR
20:48	95.3E+06	17.6E+05	23.6E-01	00.0E-02	12.6E-01	100	46.5	GOOD HOUR
21:48	11.3E+07	18.6E+05	22.4E-01	00.0E-02	94.4E-02	100	57.9	GOOD HOUR
22:48	13.8E+07	22.0E+05	24.8E-01	00.0E-02	85.8E-02	100	65.4	GOOD HOUR
22:48	13.8E+07	22.0E+05	22.8E-01	00.0E-02	84.4E-02	100	63.0	GOOD HOUR
		AVERAGE	26.0E-01		10.5E-01		58.8	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT 10,1980"

                                                    SEPT 10,1980


ENTER FILE NAME
 ? IN9100
ENTER OUTPUT FILE NAME
 ? OUT9100
ENTER PROCESS DATA FILE NAME
 ? P9100
ENTER HEAT INPUT CONTENT
 ? 12500
```

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	10035	00000	BT	NO
0200	11038	00000	BT	NO
0300	10436	00000	BT	NO
0400	10035	00000	BT	NO
0500	10035	00000	BT	NO
0600	10035	00000	BT	NO
0700	10035	00000	BT	NO
0800	09633	00000	BT	NO
0900	08657	00000	BT	NO
1000	09026	00000	BT	NO
1100	08657	00000	BT	NO
1200	08289	00000	BT	NO
1300	09026	00000	BT	NO

1400	09026	00000	BT	NO
1500	07920	00000	BT	NO
1600	09210	00000	BT	NO
1700	09210	00000	BT	NO
1800	08473	00000	BT	NO
1900	09578	00000	BT	NO
2000	09578	00000	BT	NO
2100	09762	00000	BT	NO
2200	09210	00000	BT	NO
2300	08841	00000	BT	NO
2400	08841	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/10	00:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	00:18	01	0740.8	08.3	329.3	0000.0	146.8	0325.4	08.7	165.0	
09/10	00:33	01	0734.8	08.7	330.1	0000.0	147.7	0324.3	09.0	165.6	
09/10	00:48	01	0759.4	08.5	331.2	0000.0	148.8	0339.7	09.0	167.0	
		AVERAGE	0745.0	08.5	330.2	0000.0	147.8	0329.8	08.9	165.9	GOOD HOUR
09/10	01:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	01:18	01	0761.4	08.7	333.8	0000.0	149.9	0331.7	09.0	167.2	
09/10	01:33	01	0726.8	08.4	332.2	0000.0	148.5	0357.9	08.4	167.0	
09/10	01:48	01	0735.5	08.8	330.8	0000.0	149.6	0316.7	09.3	166.6	
		AVERAGE	0741.2	08.6	332.3	0000.0	149.3	0335.4	08.9	166.9	GOOD HOUR
09/10	02:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	02:18	01	0927.0	07.7	331.3	0000.0	159.8	0359.5	08.3	181.2	
09/10	02:33	01	1077.3	07.0	332.9	0000.0	158.9	0382.4	07.0	177.2	
09/10	02:48	01	0945.6	08.6	330.1	0000.0	156.1	0306.9	09.2	173.8	
		AVERAGE	0983.3	07.8	331.4	0000.0	158.3	0349.6	08.2	177.4	GOOD HOUR
09/10	03:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	03:18	01	0960.9	08.3	333.2	0000.0	157.7	0310.4	08.6	173.9	
09/10	03:33	01	0996.2	08.5	332.2	0000.0	157.7	0312.7	08.9	175.0	
09/10	03:48	01	0997.5	08.5	327.8	0000.0	153.6	0328.1	09.1	172.5	
		AVERAGE	0984.9	08.4	331.1	0000.0	156.3	0317.1	08.9	173.8	GOOD HOUR
09/10	04:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

09/10	04:18	01	1012.1	08.4	378.6	0000.0	152.5	0334.9	09.2	172.7	
09/10	04:33	01	1004.8	08.5	332.7	0000.0	155.2	0327.0	09.2	175.4	
09/10	04:48	01	1010.1	08.6	330.6	0000.0	153.1	0322.4	09.4	173.0	
		AVERAGE	1009.0	08.5	347.3	0000.0	153.6	0328.1	09.3	173.7	GOOD HOUR
09/10	05:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	05:18	01	0979.5	08.6	333.0	0000.0	155.0	0305.0	09.4	172.9	
09/10	05:33	01	1020.8	08.7	331.9	0000.0	154.5	0375.5	09.1	173.1	
09/10	05:48	01	1003.5	08.9	333.4	0000.0	155.8	0343.0	09.2	173.7	
		AVERAGE	1001.3	08.7	332.8	0000.0	155.1	0341.2	09.2	173.2	GOOD HOUR
09/10	06:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	06:18	01	1044.1	08.5	334.0	0000.0	155.4	0329.2	08.5	173.8	
09/10	06:33	01	1029.4	09.0	331.9	0000.0	153.9	0321.5	09.3	172.0	
09/10	06:48	01	1010.8	09.1	332.1	0000.0	154.5	0308.9	09.5	172.7	
		AVERAGE	1028.1	08.9	332.7	0000.0	154.6	0319.9	09.1	172.8	GOOD HOUR
09/10	07:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	07:18	01	0863.2	09.5	333.1	0000.0	153.6	0281.1	10.5	172.6	
09/10	07:33	01	0932.3	09.5	334.9	0000.0	154.5	0318.4	10.0	174.2	
09/10	07:48	01	1025.4	09.2	333.9	0000.0	154.9	0335.4	09.4	173.2	
		AVERAGE	0940.3	09.4	334.0	0000.0	154.3	0311.6	10.0	173.3	GOOD HOUR
09/10	08:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	08:18	01	1056.7	09.1	334.5	0000.0	153.5	0331.8	09.2	171.7	
09/10	08:33	01	0986.9	09.6	334.1	0000.0	153.9	0294.2	10.4	171.2	
09/10	08:48	01	1046.0	09.2	333.9	0000.0	154.2	0316.3	09.8	171.4	
		AVERAGE	1029.9	09.3	334.2	0000.0	153.9	0314.1	09.8	171.4	GOOD HOUR
09/10	09:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	09:18	01	1126.5	08.5	337.4	0000.0	156.7	0365.9	09.2	174.0	
09/10	09:33	01	1147.8	08.9	330.1	0000.0	152.4	0428.8	09.8	168.8	
09/10	09:48	01	1122.5	09.2	339.0	0000.0	158.8	0435.2	10.2	174.9	
		AVERAGE	1132.3	08.9	335.5	0000.0	156.0	0410.0	09.7	172.6	GOOD HOUR
09/10	10:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	10:30	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	10:45	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	10:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/10	11:07	01	1292.1	09.0	334.0	0000.0	153.9	0337.6	09.7	172.1	
09/10	11:22	01	1026.1	09.7	328.1	0000.0	167.7	0435.9	10.7	185.3	
09/10	11:37	01	1027.4	09.7	324.9	0000.0	159.5	0337.7	10.2	192.3	
09/10	11:52	01	1050.0	09.1	327.8	0000.0	159.7	0276.2	09.9	182.8	
		AVERAGE	1098.9	09.4	328.7	0000.0	160.2	0346.8	10.1	183.1	GOOD HOUR
09/10	12:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/10	12:15	01	1023.3	09.3	327.4	0000.0	155.6	0254.4	10.4	174.9	
09/10	12:30	01	1029.4	08.8	325.2	0000.0	153.2	0271.8	09.4	173.7	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 287)
PAGE NUMBER
A-74
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA
DIMENSION FOR TABLES AND ILLUSTRATIONS
TYPING GUIDE SHEET

BEGIN FIRST LINE OF TEXT HERE

CENTER OF PAGE

TOP OF IMAGE AREA

DROPPED HEAD: BEGIN SECTIONS HERE

09/10	12:45	01	1062.0	08.5	329.9	0000.0	152.9	0289.8	09.2	174.5		
		AVERAGE	1038.2	08.9	327.5	0000.0	153.9	0272.0	09.7	174.4	0000	HOUR
09/10	13:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/10	13:15	01	1028.8	08.9	333.3	0000.0	157.0	0316.0	09.7	177.3		
09/10	13:30	01	1079.3	08.4	331.2	0000.0	155.9	0307.1	08.9	175.5		
09/10	13:45	01	1123.9	08.2	329.0	0000.0	155.8	0370.1	08.7	174.3		
		AVERAGE	1077.3	08.5	331.2	0000.0	156.2	0331.1	09.1	175.7	0000	HOUR
09/10	14:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/10	14:16	01	1169.1	09.2	329.0	0000.0	153.6	0378.4	10.0	174.1		
09/10	14:31	01	1012.8	09.6	332.6	0000.0	160.0	0371.4	10.4	178.3		
09/10	14:46	01	1012.8	10.0	333.1	0000.0	166.7	0393.9	11.1	182.1		
		AVERAGE	1064.9	09.6	331.6	0000.0	160.1	0381.2	10.5	178.2	0000	HOUR
09/10	15:01	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/10	15:16	01	1054.7	09.1	331.1	0000.0	160.1	0868.4	10.1	180.0		
09/10	15:31	01	1312.0	08.1	329.9	0000.0	155.2	0621.6	08.8	178.1		
09/10	15:46	01	1301.4	08.2	379.5	0000.0	177.1	0730.8	08.7	189.0		
		AVERAGE	1222.7	08.5	346.8	0000.0	164.1	0740.3	09.2	182.4	0000	HOUR
09/10	16:01	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/10	16:15	01	1118.5	08.0	330.8	0000.0	165.2	0455.6	08.7	201.6		
09/10	16:35	01	1340.0	08.1	333.0	0000.0	158.4	0372.1	08.5	185.1		
09/10	16:50	01	1147.1	07.8	333.9	0000.0	156.4	0297.7	08.5	191.1		
		AVERAGE	1201.9	08.0	332.6	0000.0	160.0	0375.1	08.6	189.3	0000	HOUR
09/10	17:05	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/10	17:20	01	0898.4	09.1	334.9	0000.0	155.4	0180.2	10.4	180.0		
09/10	17:35	01	1064.0	07.6	337.1	0000.0	158.3	0284.6	08.3	180.3		
09/10	17:50	01	0893.8	09.2	336.3	0000.0	154.9	0284.6	10.5	178.0		
		AVERAGE	0952.1	08.6	336.1	0000.0	156.2	0249.8	09.7	179.4	0000	HOUR
09/10	17:52	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/10	18:24	01	0995.5	08.1	336.1	0000.0	158.7	0285.4	09.2	176.2		
09/10	18:39	01	1115.9	07.5	337.3	0000.0	157.9	0305.6	08.2	175.9		
09/10	18:54	01	1079.3	08.2	338.1	0000.0	159.0	0283.7	08.9	176.5		
		AVERAGE	1063.6	07.9	337.2	0000.0	158.5	0291.6	08.8	176.2	0000	HOUR
09/10	19:09	01	1077.3	07.7	339.9	0000.0	166.0	0280.8	08.6	177.5		
09/10	19:24	01	1199.0	07.2	342.7	0000.0	159.3	0291.5	08.1	181.5		
09/10	19:39	01	1197.0	08.1	341.4	0000.0	161.1	0321.5	09.1	177.6		
09/10	19:48	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
		AVERAGE	1157.8	07.7	341.3	0000.0	162.1	0297.9	08.6	178.9	0000	HOUR
09/10	20:13	01	1373.9	08.0	340.6	0000.0	160.8	0330.4	09.1	178.2		
09/10	20:28	01	1309.4	07.9	342.5	0000.0	161.4	0343.8	08.9	176.5		
09/10	20:43	01	1342.6	07.7	342.3	0000.0	161.6	0345.3	08.7	176.8		
09/10	20:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
		AVERAGE	1342.0	07.9	341.8	0000.0	161.3	0339.8	08.9	177.2	0000	HOUR

BEGIN LAST LINE OF TEXT

3/8"

BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

EPA Form 2350-4 (4-80)

(PREVIOUSLY CIN. EPA FORM 287)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1981—[illegible]

TYPING GUIDE SHEET

09/10	21:13	01	1274.1	07.8	344.6	0000.0	160.8	0345.5	09.2	175.9	
09/10	21:28	01	1350.0	07.8	347.4	0000.0	160.5	0371.5	08.9	177.0	
09/10	21:43	01	1370.6	08.0	341.4	0000.0	160.2	0385.8	09.1	176.6	
09/10	21:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1331.6	07.9	344.5	0000.0	160.5	0367.6	09.1	176.5	GOOD HOUR
09/10	22:13	01	1300.7	08.4	342.3	0000.0	159.0	0314.5	09.7	175.1	
09/10	22:28	01	1266.2	08.5	342.3	0000.0	159.2	0302.4	09.7	174.9	
09/10	22:43	01	1301.4	08.2	343.7	0000.0	160.5	0306.6	09.5	175.7	
09/10	22:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1289.4	08.4	342.8	0000.0	159.6	0307.8	09.6	175.2	GOOD HOUR
09/10	23:13	01	1193.0	08.6	342.2	0000.0	159.1	0249.1	09.8	171.9	
09/10	23:28	01	1201.0	08.5	341.0	0000.0	157.3	0229.2	09.7	170.5	
09/10	23:43	01	1116.5	09.2	341.3	0000.0	157.9	0188.3	10.4	170.2	
09/10	23:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1170.2	08.8	341.5	0000.0	158.1	0222.2	10.0	170.9	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:48	12.5E+07	20.8E+05	20.5E-01	00.0E-02	93.6E-02	100	54.3	GOOD HOUR
01:48	13.8E+07	23.1E+05	20.6E-01	00.0E-02	95.2E-02	100	53.7	GOOD HOUR
02:48	13.0E+07	20.4E+05	25.5E-01	00.0E-02	93.5E-02	100	63.3	GOOD HOUR
03:48	12.5E+07	20.7E+05	26.9E-01	00.0E-02	89.8E-02	100	66.6	GOOD HOUR
04:48	12.5E+07	20.8E+05	27.7E-01	00.0E-02	96.1E-02	100	65.3	GOOD HOUR
05:48	12.5E+07	21.2E+05	28.0E-01	00.0E-02	99.6E-02	100	64.5	GOOD HOUR
06:48	12.5E+07	21.4E+05	29.1E-01	00.0E-02	92.4E-02	100	68.3	GOOD HOUR
07:48	12.0E+07	21.5E+05	27.9E-01	00.0E-02	97.1E-02	100	65.1	GOOD HOUR
08:48	10.8E+07	19.1E+05	30.2E-01	00.0E-02	96.4E-02	100	68.1	GOOD HOUR
09:48	11.3E+07	19.2E+05	32.1E-01	00.0E-02	12.5E-01	100	61.0	GOOD HOUR
10:58	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
11:52	10.4E+07	18.5E+05	32.5E-01	00.0E-02	11.0E-01	100	66.2	GOOD HOUR
12:45	11.3E+07	19.2E+05	29.4E-01	00.0E-02	82.5E-02	100	71.9	GOOD HOUR
13:45	11.3E+07	18.7E+05	29.6E-01	00.0E-02	95.6E-02	100	67.7	GOOD HOUR
14:46	99.0E+06	18.0E+05	32.1E-01	00.0E-02	12.5E-01	100	61.1	GOOD HOUR
15:46	11.5E+07	19.0E+05	33.5E-01	00.0E-02	21.6E-01	100	35.7	GOOD HOUR
16:50	11.5E+07	18.3E+05	31.7E-01	00.0E-02	10.4E-01	100	67.3	GOOD HOUR
17:50	10.6E+07	17.7E+05	26.4E-01	00.0E-02	76.2E-02	100	71.2	GOOD HOUR
18:54	12.0E+07	19.0E+05	27.9E-01	00.0E-02	81.9E-02	100	70.7	GOOD HOUR
19:48	12.0E+07	18.6E+05	29.8E-01	00.0E-02	82.5E-02	100	72.3	GOOD HOUR
20:58	12.2E+07	19.2E+05	35.1E-01	00.0E-02	96.5E-02	100	72.5	GOOD HOUR
21:58	11.5E+07	18.1E+05	34.8E-01	00.0E-02	10.6E-01	100	69.6	GOOD HOUR
22:58	11.1E+07	18.1E+05	35.1E-01	00.0E-02	93.1E-02	100	73.4	GOOD HOUR
23:58	11.1E+07	18.7E+05	32.9E-01	00.0E-02	69.2E-02	100	78.9	GOOD HOUR
		AVERAGE	29.5E-01		10.1E-01		65.6	

GOOD DAY

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
PREVIOUSLY CIN: EPA FORM 287)
PAGE NUMBER
A-76
TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND,MARYLAND

ENTER DATE OF TEST
? "SEPT 11,1980"

SEPT 11,1980

ENTER FILE NAME
? IN9110
ENTER OUTPUT FILE NAME
? OUT9110
ENTER PROCESS DATA FILE NAME
? P9110
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON				
0100	10130	00000	BT	NO				
0200	10130	00000	BT	NO				
0300	09762	00000	BT	NO				
0400	10130	00000	BT	NO				
0500	09762	00000	BT	NO				
0600	10130	00000	BT	NO				
0700	10867	00000	BT	NO				
0800	09578	00000	BT	NO				
0900	10540	00000	BT	NO	10135	00000	BT	NO
1100	10540	00000	BT	NO				
1200	10945	00000	BT	NO				
1300	10338	00000	BT	NO				

EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 257)
TYPING GUIDE SHEET

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2250-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
A-78
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

1400	10135	00000	BT	NO
1500	10743	00000	BT	NO
1600	10135	00000	BT	NO
1700	10540	00000	BT	NO
1800	10135	00000	BT	NO
1900	11148	00000	BT	NO
2000	10945	00000	BT	NO
2100	10743	00000	BT	NO
2200	10540	00000	BT	NO
2300	09932	00000	BT	NO
2400	10945	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/11	00:13	01	1110.6	07.9	341.2	0000.0	158.7	0264.1	08.8	169.9	
09/11	00:28	01	1157.4	07.8	340.6	0000.0	158.8	0284.6	08.3	169.9	
09/11	00:43	01	1179.7	08.9	340.6	0000.0	157.9	0288.2	10.0	168.5	
09/11	00:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1149.2	08.2	340.8	0000.0	158.5	0279.0	09.0	169.4	GOOD HOUR
09/11	01:13	01	1242.2	07.6	339.0	0000.0	156.3	0274.6	09.0	167.6	
09/11	01:28	01	1470.3	06.8	341.3	0000.0	158.1	0345.2	08.0	169.6	
09/11	01:43	01	1458.3	07.3	341.4	0000.0	157.7	0344.2	08.5	167.9	
09/11	01:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1390.3	07.2	340.6	0000.0	157.4	0321.3	08.5	168.4	GOOD HOUR
09/11	02:13	01	1363.9	07.7	340.1	0000.0	159.1	0388.7	08.3	169.1	
09/11	02:28	01	1433.7	07.7	340.1	0000.0	159.2	0415.8	08.9	171.4	
09/11	02:43	01	1450.4	07.7	340.4	0000.0	158.0	0492.5	08.9	172.0	
09/11	02:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1416.0	07.7	340.2	0000.0	158.4	0432.3	08.7	170.8	GOOD HOUR
09/11	03:13	01	1336.0	07.9	338.4	0000.0	184.4	0622.9	08.3	196.9	
09/11	03:28	01	1405.1	07.9	336.8	0000.0	175.6	0587.2	09.4	195.6	
09/11	03:43	01	1409.8	08.0	337.7	0000.0	172.9	0651.4	09.4	190.0	
09/11	03:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1383.6	07.9	336.6	0000.0	177.6	0620.5	09.4	194.2	GOOD HOUR
09/11	04:13	01	1358.6	08.3	337.5	0000.0	185.5	0632.4	09.9	193.5	

09/11	04:28	01	1346.0	08.4	336.9	0000.0	170.6	0863.2	10.0	188.4	
09/11	04:43	01	1261.5	08.1	336.9	0000.0	185.2	0763.2	09.7	202.1	
09/11	04:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1322.0	08.3	337.1	0000.0	180.4	0752.9	09.9	194.7	GOOD HOUR
09/11	05:13	01	1240.9	08.4	337.9	0000.0	206.0	0680.8	09.9	228.7	
09/11	05:28	01	1400.5	08.2	339.0	0000.0	198.3	0708.6	09.0	222.5	
09/11	05:43	01	1201.0	09.1	337.7	0000.0	235.5	0791.9	10.6	246.7	
09/11	05:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1280.8	08.6	338.2	0000.0	213.3	0727.1	09.8	232.6	GOOD HOUR
09/11	06:13	01	1228.3	08.1	337.7	0000.0	209.9	0660.5	09.3	249.5	
09/11	06:28	01	1289.4	08.2	339.1	0000.0	199.5	0668.5	09.3	228.7	
09/11	06:43	01	1272.1	08.1	339.4	0000.0	200.1	0681.5	09.3	220.9	
09/11	06:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1263.3	08.1	338.7	0000.0	203.2	0670.2	09.3	233.0	GOOD HOUR
09/11	07:13	01	1317.4	08.1	340.4	0000.0	191.5	0636.1	09.2	221.0	
09/11	07:28	01	1426.4	07.7	339.8	0000.0	180.3	0640.5	08.4	209.7	
09/11	07:43	01	1463.7	08.0	339.5	0000.0	184.5	0697.2	08.8	211.1	
09/11	07:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1402.5	07.9	339.9	0000.0	185.4	0657.9	08.8	213.9	GOOD HOUR
09/11	08:13	01	1057.4	09.0	337.7	0000.0	188.7	0339.3	10.2	226.4	
09/11	08:28	01	1078.6	08.8	335.4	0000.0	165.9	0228.0	10.0	193.7	
09/11	08:43	01	1015.5	08.9	337.3	0000.0	177.2	0323.5	10.2	193.7	
09/11	08:58	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1050.5	08.9	336.8	0000.0	177.3	0296.9	10.1	204.6	GOOD HOUR
09/11	09:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	09:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	09:30	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	09:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/11	10:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	10:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	10:30	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	10:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/11	11:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	11:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	11:30	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	11:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/11	12:00	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	12:15	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/11	12:30	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-90)
(PREVIOUSLY CIN-EPA FORM 261)
PAGE NUMBER
A-79
BEGIN DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA

09/11	12:45 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/11	13:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/11	13:24 01	1233.6	08.3	335.1	0000.0	291.0	1130.8	08.5	320.3		
09/11	13:39 01	1131.8	08.9	334.6	0000.0	290.8	1090.7	09.1	320.8		
09/11	13:54 01	1093.3	08.7	333.7	0000.0	290.3	1086.7	09.0	320.9		
	AVERAGE	1152.9	08.6	334.5	0000.0	290.7	1102.7	08.9	320.7	GOOD HOUR	
09/11	14:09 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/11	14:24 01	1146.5	08.2	334.9	0000.0	292.5	0835.9	08.4	320.3		
09/11	14:39 01	1153.8	08.2	335.5	0000.0	292.1	0855.3	08.5	320.7		
09/11	14:54 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1150.2	08.2	335.2	0000.0	292.3	0845.6	08.5	320.5	GOOD HOUR	
09/11	15:12 01	1273.5	09.2	336.7	0000.0	292.9	0972.1	08.3	322.6		
09/11	15:27 01	1143.8	09.2	336.3	0000.0	291.7	0912.6	08.9	322.8		
09/11	15:42 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/11	15:57 01	0993.5	08.9	337.7	0000.0	297.4	0850.4	09.4	324.8		
	AVERAGE	1136.9	09.1	336.9	0000.0	294.0	0911.7	08.9	323.4	GOOD HOUR	
09/11	16:12 01	1028.8	09.2	337.8	0000.0	297.3	0854.9	09.7	325.8		
09/11	16:27 01	0976.9	09.2	338.2	0000.0	297.6	0830.3	09.7	324.6		
09/11	16:42 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/11	16:57 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1002.8	09.2	338.0	0000.0	297.5	0842.6	09.7	325.2	GOOD HOUR	
09/11	17:02 01	1128.5	08.1	332.0	0000.0	193.3	0521.5	09.4	255.7		
09/11	17:17 01	1112.5	07.7	331.7	0000.0	175.9	0290.9	09.2	224.3		
09/11	17:32 01	0941.6	08.7	337.4	0000.0	175.0	0236.6	10.6	211.1		
09/11	17:47 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1060.9	08.2	333.7	0000.0	181.4	0349.7	09.7	230.4	GOOD HOUR	
09/11	18:02 01	1120.5	07.8	334.9	0000.0	172.3	0229.8	09.2	196.7		
09/11	18:17 01	0996.8	08.2	334.9	0000.0	176.8	0211.2	09.8	194.3		
09/11	18:32 01	1048.0	07.6	335.2	0000.0	168.7	0199.6	09.1	190.2		
09/11	18:50 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1055.1	07.9	335.0	0000.0	172.6	0213.5	09.4	193.7	GOOD HOUR	
09/11	19:06 01	1203.3	06.7	335.2	0000.0	189.9	0526.1	07.4	199.2		
09/11	19:21 01	1099.2	07.7	327.9	0000.0	169.2	0259.2	08.8	192.0		
09/11	19:36 01	1042.7	08.1	330.5	0000.0	165.9	0227.1	09.4	185.2		
09/11	19:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1115.1	07.5	331.2	0000.0	175.0	0337.5	08.5	192.1	GOOD HOUR	
09/11	20:06 01	1084.6	08.1	334.5	0000.0	166.3	0212.9	09.5	181.9		
09/11	20:21 01	1151.1	07.7	334.9	0000.0	164.3	0214.9	09.1	179.6		
09/11	20:36 01	1166.4	07.8	337.7	0000.0	167.0	0219.9	09.3	180.7		
09/11	20:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1134.0	07.9	335.7	0000.0	165.9	0215.9	09.3	180.7	GOOD HOUR	

09/11	21:06	01	1089.9	08.4	343.1	0000.0	166.6	0191.8	10.2	181.0	
09/11	21:21	01	1084.0	08.4	342.7	0000.0	165.7	0202.6	10.1	179.9	
09/11	21:36	01	1209.6	07.9	340.0	0000.0	164.7	0202.6	09.4	178.8	
09/11	21:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1127.8	08.2	341.9	0000.0	165.7	0199.0	09.9	179.9	GOOD HOUR
09/11	22:06	01	1158.4	08.4	338.7	0000.0	164.8	0186.2	09.7	178.5	
09/11	22:21	01	1194.3	08.2	339.6	0000.0	164.1	0198.5	09.5	176.2	
09/11	22:36	01	1134.5	08.5	339.5	0000.0	163.0	0192.1	09.8	174.7	
09/11	22:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1162.4	08.4	339.3	0000.0	164.0	0192.3	09.7	176.5	GOOD HOUR
09/11	23:06	01	0916.4	08.4	339.8	0000.0	163.5	0198.3	09.9	176.1	
09/11	23:21	01	1054.7	08.0	340.7	0000.0	163.1	0207.2	09.2	175.2	
09/11	23:36	01	1129.2	07.8	341.7	0000.0	163.0	0203.5	08.8	174.5	
09/11	23:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1033.4	08.1	340.7	0000.0	163.2	0203.0	09.3	175.3	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:58	12.7E+07	20.5E+05	30.8E-01	00.0E-02	80.1E-02	100	74.0	GOOD HOUR
01:58	12.7E+07	19.0E+05	34.7E-01	00.0E-02	88.3E-02	100	74.5	GOOD HOUR
02:58	12.2E+07	19.0E+05	36.5E-01	00.0E-02	12.1E-01	100	67.0	GOOD HOUR
03:58	12.7E+07	20.0E+05	36.4E-01	00.0E-02	18.3E-01	100	49.6	GOOD HOUR
04:58	12.2E+07	19.8E+05	35.7E-01	00.0E-02	23.2E-01	100	34.8	GOOD HOUR
05:58	12.7E+07	21.1E+05	35.4E-01	00.0E-02	22.4E-01	100	36.7	GOOD HOUR
06:58	13.6E+07	21.8E+05	33.7E-01	00.0E-02	19.7E-01	100	41.6	GOOD HOUR
07:58	12.0E+07	19.0E+05	36.9E-01	00.0E-02	18.5E-01	100	49.7	GOOD HOUR
08:58	13.2E+07	22.5E+05	29.8E-01	00.0E-02	94.0E-02	100	68.5	GOOD HOUR
09:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
11:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
12:45	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
13:54	12.7E+07	21.2E+05	32.0E-01	00.0E-02	31.2E-01	100	02.5	GOOD HOUR
14:54	13.4E+07	21.7E+05	30.9E-01	00.0E-02	23.1E-01	100	25.0	GOOD HOUR
15:57	12.7E+07	22.0E+05	32.8E-01	00.0E-02	25.8E-01	100	21.4	GOOD HOUR
16:57	13.2E+07	23.1E+05	29.2E-01	00.0E-02	25.6E-01	100	12.2	GOOD HOUR
17:42	12.7E+07	20.4E+05	28.4E-01	00.0E-02	10.7E-01	100	62.4	GOOD HOUR
18:50	13.9E+07	21.9E+05	27.6E-01	00.0E-02	63.1E-02	100	77.1	GOOD HOUR
19:51	13.7E+07	21.0E+05	28.4E-01	00.0E-02	93.0E-02	100	67.2	GOOD HOUR
20:51	13.4E+07	21.1E+05	29.6E-01	00.0E-02	63.4E-02	100	78.6	GOOD HOUR
21:51	13.2E+07	21.3E+05	30.3E-01	00.0E-02	61.6E-02	100	79.7	GOOD HOUR
22:51	12.4E+07	20.3E+05	31.6E-01	00.0E-02	58.3E-02	100	81.5	GOOD HOUR
23:51	13.7E+07	21.9E+05	27.4E-01	00.0E-02	59.6E-02	100	78.3	GOOD HOUR
		AVERAGE	31.9E-01		14.8E-01		54.1	

GOOD DAY

PROGRAM CELDA

CELANESE FUD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 12,1980"

SEPT 12,1980

ENTER FILE NAME
? IN9120
ENTER OUTPUT FILE NAME
? OUT9120
ENTER PROCESS DATA FILE NAME
? P9120
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	11148	00000	BT	NO
0200	11756	00000	BT	NO
0300	10945	00000	BT	NO
0400	10945	00000	BT	NO
0500	10540	00000	BT	NO
0600	10743	00000	BT	NO
0700	11350	00000	BT	NO
0800	10135	00000	BT	NO
0900	09903	00000	BT	NO
1000	09126	00000	BT	NO
1100	09709	00000	BT	NO
1200	08932	00000	BT	NO
1300	10290	00000	BT	NO

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN, EPA FORM 241)
PAGE NUMBER
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA (OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS)
TYPING GUIDE SHEET

1400	09320	00000	BT	NU
1500	09515	00000	BT	NU
1600	10485	00000	BT	NU
1700	10291	00000	BT	NU
1800	10097	00000	BT	NU
1900	09126	00000	BT	NU
2000	10485	00000	BT	NU
2100	09320	00000	BT	NU
2200	09126	00000	BT	NU
2300	09320	00000	BT	NU
2400	10485	00000	BT	NU

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER -PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/12	00:06	01	1057.0	07.9	340.5	0000.0	161.9	0188.7	09.3	173.0	
09/12	00:21	01	1114.5	07.2	341.4	0000.0	161.9	0191.5	09.1	173.3	
09/12	00:36	01	1187.8	07.8	340.4	0000.0	161.1	0200.4	08.6	172.4	
09/12	00:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1119.8	07.6	340.8	0000.0	161.6	0193.5	09.0	172.9	GOOD HOUR
09/12	01:06	01	1132.5	08.3	345.4	0000.0	162.2	0184.7	09.8	176.8	
09/12	01:21	01	1135.8	08.3	345.9	0000.0	161.9	0211.1	09.5	176.9	
09/12	01:36	01	1189.7	07.7	344.5	0000.0	165.5	0249.1	08.7	179.5	
09/12	01:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1152.7	08.1	345.3	0000.0	163.2	0215.0	09.3	177.7	GOOD HOUR
09/12	02:06	01	1189.0	07.8	341.6	0000.0	159.6	0190.6	09.0	172.9	
09/12	02:21	01	1120.5	08.5	344.1	0000.0	163.2	0178.5	09.8	174.7	
09/12	02:36	01	1129.8	08.3	343.9	0000.0	163.2	0201.4	09.6	174.9	
09/12	02:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1146.4	08.2	343.2	0000.0	162.0	0190.2	09.5	174.2	GOOD HOUR
09/12	03:06	01	1191.7	07.8	337.5	0000.0	163.4	0175.3	09.0	182.6	
09/12	03:21	01	1224.3	07.7	336.9	0000.0	157.0	0174.7	08.8	174.5	
09/12	03:36	01	1252.2	07.6	338.3	0000.0	155.3	0198.0	08.5	172.3	
09/12	03:51	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1222.7	07.7	337.6	0000.0	158.6	0182.7	08.8	176.5	GOOD HOUR
09/12	04:06	01	1171.1	08.0	339.5	0000.0	154.9	0183.3	09.4	169.1	

09/12	04:21 01	1121.2	08.5	339.3	0000.0	155.4	0188.7	09.9	169.1	
09/12	04:36 01	1117.2	08.3	340.4	0000.0	156.4	0191.5	09.8	168.8	
09/12	04:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1136.5	08.3	339.7	0000.0	155.6	0187.8	09.7	169.0	GOOD HOUR
09/12	05:06 01	1180.4	07.4	342.5	0000.0	157.6	0197.8	08.4	170.2	
09/12	05:21 01	1181.7	07.9	341.7	0000.0	159.1	0203.0	08.9	169.4	
09/12	05:36 01	1157.1	08.1	344.2	0000.0	162.3	0184.1	09.2	173.2	
09/12	05:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1173.1	07.8	342.8	0000.0	159.7	0195.0	08.8	170.9	GOOD HOUR
09/12	06:06 01	1389.9	08.4	347.0	0000.0	157.6	0211.5	10.0	171.0	
09/12	06:21 01	1534.2	07.9	345.1	0000.0	155.3	0256.6	09.0	170.1	
09/12	06:36 01	1640.5	07.7	343.8	0000.0	155.1	0286.2	08.8	169.4	
09/12	06:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1521.5	08.0	345.3	0000.0	156.0	0251.4	09.3	170.2	GOOD HOUR
09/12	07:06 01	1862.7	07.0	343.2	0000.0	154.5	0353.5	07.9	167.7	
09/12	07:21 01	1945.1	06.6	346.5	0000.0	155.4	0376.3	07.7	170.1	
09/12	07:36 01	1840.7	07.7	346.8	0000.0	154.9	0300.0	08.6	170.8	
09/12	07:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1882.8	07.1	345.5	0000.0	154.9	0343.3	08.1	169.5	GOOD HOUR
09/12	08:06 01	1570.7	08.3	342.7	0000.0	153.3	0180.6	10.6	169.5	
09/12	08:21 01	1582.0	08.1	341.1	0000.0	152.5	0188.0	09.9	168.5	
09/12	08:36 01	1527.5	08.3	339.5	0000.0	151.5	0180.2	09.3	167.8	
09/12	08:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1560.1	08.2	341.1	0000.0	152.4	0182.9	09.9	168.6	GOOD HOUR
09/12	09:06 01	1584.7	08.2	333.2	0000.0	142.7	0182.5	10.2	160.2	
09/12	09:21 01	1509.6	08.8	343.1	0000.0	151.3	0211.5	10.5	168.4	
09/12	09:36 01	1532.2	08.6	342.3	0000.0	150.9	0217.9	10.7	167.7	
09/12	09:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1542.2	08.5	339.5	0000.0	148.3	0204.0	10.5	165.4	GOOD HOUR
09/12	10:06 01	1595.3	07.7	340.2	0000.0	150.7	0217.2	10.5	167.3	
09/12	10:21 01	1552.8	07.9	338.8	0000.0	149.4	0216.3	10.0	166.0	
09/12	10:36 01	1556.1	07.8	339.1	0000.0	149.5	0214.9	09.7	166.9	
09/12	10:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1568.1	07.8	339.4	0000.0	149.9	0216.1	10.1	166.7	GOOD HOUR
09/12	11:06 01	1417.8	08.2	337.5	0000.0	148.7	0157.1	09.9	165.3	
09/12	11:21 01	1342.0	08.4	326.6	0000.0	141.8	0134.2	10.2	160.4	
09/12	11:36 01	1384.5	08.0	333.9	0000.0	146.2	0154.7	10.1	164.0	
09/12	11:51 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1381.4	08.2	332.7	0000.0	145.6	0148.7	10.1	169.9	GOOD HOUR
09/12	12:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/12	12:30 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/12	12:15 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

09/12	13:10 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/12	13:14 01	1110.6	08.2	336.8	0000.0	162.6	1014.4	08.7	182.6		
09/12	13:29 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/12	13:44 01	1046.0	08.6	334.3	0000.0	158.6	0878.1	09.3	177.9		
09/12	13:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1078.3	08.4	335.6	0000.0	160.6	0946.3	09.0	180.3	GOOD HOUR	
09/12	14:14 01	0918.4	09.4	332.2	0000.0	157.8	0546.5	10.2	178.8		
09/12	14:29 01	0982.2	08.9	331.5	0000.0	153.9	0297.9	09.6	171.2		
09/12	14:44 01	1038.1	08.5	331.9	0000.0	152.6	0280.9	09.1	169.4		
09/12	14:59 01	1173.7	07.7	337.7	0000.0	152.7	0271.3	07.9	170.1		
	AVERAGE	1028.1	08.6	333.3	0000.0	154.3	0349.2	09.2	172.4	GOOD HOUR	
09/12	15:14 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/12	15:29 01	1260.2	07.9	334.3	0000.0	152.9	0241.8	07.9	167.5		
09/12	15:44 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/12	15:59 01	1441.7	07.4	336.7	0000.0	154.1	0279.7	07.5	169.7		
	AVERAGE	1351.0	07.7	335.5	0000.0	153.5	0260.8	07.7	168.6	GOOD HOUR	
09/12	16:14 01	1459.0	07.1	336.4	0000.0	153.7	0295.7	07.5	169.0		
09/12	16:29 01	1464.3	07.2	335.2	0000.0	153.8	0321.9	07.7	168.2		
09/12	16:44 01	1381.9	07.4	334.6	0000.0	153.6	0298.7	07.9	167.9		
09/12	16:59 01	1373.2	07.3	336.1	0000.0	154.7	0268.5	08.1	168.7		
	AVERAGE	1419.6	07.3	335.6	0000.0	153.9	0296.2	07.8	168.5	GOOD HOUR	
09/12	17:14 01	1404.5	07.4	336.8	0000.0	154.7	0276.4	08.1	168.8		
09/12	17:29 01	1392.5	08.2	340.7	0000.0	155.8	0276.0	09.0	172.0		
09/12	17:44 01	1467.7	07.7	340.8	0000.0	154.8	0305.8	08.8	172.3		
09/12	17:59 01	1492.3	07.1	338.1	0000.0	155.4	0262.7	08.1	171.3		
	AVERAGE	1439.3	07.6	339.1	0000.0	155.2	0280.2	08.5	171.1	GOOD HOUR	
09/12	18:14 01	1383.2	07.8	339.4	0000.0	156.7	0238.3	08.8	172.1		
09/12	18:29 01	1341.3	08.1	338.1	0000.0	157.2	0245.8	09.1	171.8		
09/12	18:44 01	1286.8	08.2	334.9	0000.0	154.7	0264.9	09.5	169.0		
09/12	18:59 01	1361.9	07.2	337.5	0000.0	156.9	0294.3	08.2	170.7		
	AVERAGE	1343.3	07.8	337.5	0000.0	156.4	0260.8	08.9	170.9	GOOD HOUR	
09/12	19:14 01	1165.1	07.4	331.7	0000.0	167.0	0361.9	08.3	187.3		
09/12	19:29 01	1128.5	07.6	333.4	0000.0	161.9	0312.2	08.3	177.8		
09/12	19:44 01	1241.6	07.4	334.4	0000.0	161.7	0325.2	07.8	175.5		
09/12	19:59 01	1159.1	07.6	335.5	0000.0	160.4	0258.0	09.6	174.4		
	AVERAGE	1173.6	07.5	333.8	0000.0	162.8	0314.3	08.5	178.8	GOOD HOUR	
09/12	20:14 01	1115.9	08.9	335.4	0000.0	160.4	0258.4	10.0	173.0		
09/12	20:29 01	1229.6	08.4	335.6	0000.0	158.9	0291.0	09.2	171.8		
09/12	20:44 01	1221.6	08.3	336.9	0000.0	159.6	0254.2	09.5	171.7		
09/12	20:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1189.0	08.5	336.0	0000.0	159.6	0267.9	09.6	172.2	GOOD HOUR	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 287)
PAGE NUMBER
A-85
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD. BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
TYPING GUIDE SHEET

BEGIN LAST LINE OF TEXT
DROPPED HEAD; BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN EPA FORM 297)
PAGE NUMBER
A-86
CENTER OF PAGE
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA

09/12	21:14 01	1161.1	08.4	340.0	0000.0	160.2	0284.0	10.0	172.5	
09/12	21:29 01	1196.3	08.3	341.1	0000.0	163.2	0297.1	09.7	175.1	
09/12	21:44 01	1203.7	08.1	339.4	0000.0	161.1	0296.2	09.4	173.1	
09/12	21:59 01	1178.4	08.0	339.1	0000.0	160.9	0291.5	09.5	173.5	
	AVERAGE	1184.9	08.2	339.9	0000.0	161.4	0292.2	09.6	173.6	GOOD HOUR
09/12	22:14 01	1174.4	08.1	337.9	0000.0	159.7	0308.0	09.5	172.8	
09/12	22:29 01	1155.8	08.4	338.3	0000.0	159.4	0306.0	09.7	173.2	
09/12	22:44 01	1194.3	08.2	339.9	0000.0	162.2	0303.2	09.5	174.3	
09/12	22:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1174.8	08.2	338.7	0000.0	160.4	0305.7	09.6	173.4	GOOD HOUR
09/12	23:14 01	1287.4	07.0	339.0	0000.0	159.0	0333.8	07.9	172.0	
09/12	23:29 01	1330.0	06.8	341.5	0000.0	164.5	0474.9	08.0	179.2	
09/12	23:44 01	1353.3	06.5	343.9	0000.0	161.8	0289.8	07.8	174.5	
09/12	23:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	1323.6	06.8	341.5	0000.0	161.8	0366.2	07.9	175.2	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:51	13.9E+07	21.6E+05	28.8E-01	00.0E-02	55.4E-02	100	80.7	GOOD HOUR
01:51	14.7E+07	23.6E+05	30.7E-01	00.0E-02	63.3E-02	100	79.4	GOOD HOUR
02:51	13.7E+07	22.1E+05	30.8E-01	00.0E-02	56.7E-02	100	81.6	GOOD HOUR
03:51	13.7E+07	21.3E+05	31.6E-01	00.0E-02	51.3E-02	100	83.7	GOOD HOUR
04:51	13.2E+07	21.4E+05	30.6E-01	00.0E-02	57.1E-02	100	81.4	GOOD HOUR
05:51	13.4E+07	21.0E+05	30.5E-01	00.0E-02	55.0E-02	100	82.0	GOOD HOUR
06:51	14.2E+07	22.6E+05	40.2E-01	00.0E-02	73.6E-02	100	81.7	GOOD HOUR
07:51	12.7E+07	18.8E+05	46.5E-01	00.0E-02	91.1E-02	100	80.4	GOOD HOUR
08:51	12.4E+07	20.1E+05	42.0E-01	00.0E-02	56.8E-02	100	86.5	GOOD HOUR
09:51	11.4E+07	18.9E+05	42.5E-01	00.0E-02	66.6E-02	100	84.3	GOOD HOUR
10:51	12.1E+07	19.0E+05	40.8E-01	00.0E-02	68.0E-02	100	83.3	GOOD HOUR
11:51	11.2E+07	18.0E+05	37.1E-01	00.0E-02	46.8E-02	100	87.4	GOOD HOUR
13:10	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
13:59	11.7E+07	19.1E+05	29.4E-01	00.0E-02	27.1E-01	100	07.8	GOOD HOUR
14:59	11.9E+07	19.9E+05	28.5E-01	00.0E-02	10.2E-01	100	64.4	GOOD HOUR
15:59	13.1E+07	20.3E+05	34.7E-01	00.0E-02	67.3E-02	100	80.6	GOOD HOUR
16:59	12.9E+07	19.3E+05	35.4E-01	00.0E-02	77.0E-02	100	78.3	GOOD HOUR
17:59	12.6E+07	19.5E+05	36.9E-01	00.0E-02	77.0E-02	100	79.1	GOOD HOUR
18:59	11.4E+07	17.9E+05	35.0E-01	00.0E-02	74.1E-02	100	78.8	GOOD HOUR
19:59	13.1E+07	20.1E+05	29.8E-01	00.0E-02	86.4E-02	100	71.1	GOOD HOUR
20:59	11.7E+07	19.3E+05	32.8E-01	00.0E-02	80.5E-02	100	75.4	GOOD HOUR
21:59	11.4E+07	18.4E+05	31.8E-01	00.0E-02	88.5E-02	100	72.2	GOOD HOUR
22:59	11.7E+07	18.9E+05	31.6E-01	00.0E-02	91.9E-02	100	70.9	GOOD HOUR
23:59	13.1E+07	19.0E+05	31.9E-01	00.0E-02	96.0E-02	100	69.9	GOOD HOUR
		AVERAGE	34.3E-01		80.6E-02		75.7	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT 13,1980"
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SEPT 13,1980

```
ENTER FILE NAME
 ? IN9130
ENTER OUTPUT FILE NAME
 ? OUT9130
ENTER PROCESS DATA FILE NAME
 ? P9130
ENTER HEAT INPUT CONTENT
 ? 12500
```

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	09903	00000	BT	NO
0200	09903	00000	BT	NO
0300	09126	00000	BT	NO
0400	09320	00000	BT	NO
0500	09320	00000	BT	NO
0600	09903	00000	BT	NO
0700	10291	00000	BT	NO
0800	10291	00000	BT	NO
0900	10972	00000	BT	NO
1000	10565	00000	BT	NO
1100	09955	00000	BT	NO
1200	10768	00000	BT	NO
1300	10565	00000	BT	NO

1400	10565	00000	BT	NO
1500	09752	00000	BT	NO
1600	09549	00000	BT	NO
1700	09752	00000	BT	NO
1800	10362	00000	BT	NO
1900	10972	00000	BT	NO
2000	10972	00000	BT	NO
2100	11175	00000	BT	NO
2200	09752	00000	BT	NO
2300	09955	00000	BT	NO
2400	11175	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/13	00:14	01	1163.1	07.4	340.0	0000.0	159.4	0300.3	09.0	172.8	
09/13	00:29	01	1348.6	06.1	339.4	0000.0	157.5	0336.8	07.7	171.9	
09/13	00:44	01	1506.9	06.1	343.1	0000.0	158.6	0330.6	07.5	171.9	
09/13	00:59	01	1663.8	06.3	341.3	0000.0	157.0	0294.3	08.0	170.1	
		AVERAGE	1420.6	06.5	341.0	0000.0	158.1	0315.5	08.0	171.7	GOOD HOUR
09/13	01:14	01	1643.9	05.9	342.3	0000.0	157.6	0320.7	07.5	170.7	
09/13	01:29	01	1737.6	05.7	343.3	0000.0	158.7	0337.6	06.9	170.7	
09/13	01:44	01	1514.9	07.3	343.8	0000.0	156.9	0320.0	07.8	169.7	
09/13	01:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1632.1	06.3	343.1	0000.0	157.7	0326.1	07.4	170.4	GOOD HOUR
09/13	02:14	01	1446.4	07.4	345.2	0000.0	159.2	0293.1	08.8	169.0	
09/13	02:29	01	1593.3	06.9	342.4	0000.0	154.2	0280.1	08.6	167.7	
09/13	02:44	01	1659.8	06.6	344.2	0000.0	156.0	0296.9	08.3	169.2	
09/13	02:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1566.5	07.0	343.9	0000.0	156.5	0290.0	08.6	168.6	GOOD HOUR
09/13	03:14	01	1602.0	06.7	345.9	0000.0	157.0	0304.3	08.4	170.0	
09/13	03:29	01	1661.8	06.8	345.0	0000.0	154.3	0453.5	08.5	168.6	
09/13	03:44	01	1659.2	06.8	343.6	0000.0	153.9	0312.6	08.5	167.7	
09/13	03:59	01	1620.1	06.5	345.5	0000.0	156.3	0298.7	08.2	169.3	
		AVERAGE	1635.8	06.7	345.0	0000.0	155.4	0342.3	08.4	168.9	GOOD HOUR
09/13	04:14	01	1589.7	06.7	343.6	0000.0	155.5	0287.8	08.5	167.4	

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3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 257)
PAGE NUMBER
A-88
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/13	04:29 01	1592.7	06.9	343.8	0000.0	152.6	0308.3	08.6	167.3		
09/13	04:44 01	1560.8	06.9	344.3	0000.0	153.1	0289.3	08.7	167.6		
09/13	04:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1581.1	06.8	343.9	0000.0	153.7	0295.1	08.6	167.4	GOOD HOUR	
09/13	05:14 01	1379.2	07.5	345.7	0000.0	153.6	0252.4	08.9	168.7		
09/13	05:29 01	1396.5	07.2	346.1	0000.0	154.8	0258.8	08.9	169.8		
09/13	05:44 01	1298.1	07.8	342.2	0000.0	156.6	0283.4	09.5	170.1		
09/13	05:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1357.9	07.5	344.7	0000.0	155.0	0264.9	09.1	169.5	GOOD HOUR	
09/13	06:14 01	1315.4	07.4	341.6	0000.0	155.0	0281.2	08.9	168.1		
09/13	06:29 01	1405.1	06.9	342.0	0000.0	155.0	0299.9	08.4	168.4		
09/13	06:44 01	1566.1	06.1	340.9	0000.0	154.9	0318.3	07.7	167.6		
09/13	06:59 01	1528.8	06.5	343.1	0000.0	154.9	0303.0	07.9	167.7		
	AVERAGE	1453.8	06.7	341.9	0000.0	155.0	0300.6	08.2	168.0	GOOD HOUR	
09/13	07:14 01	1484.3	06.8	341.2	0000.0	153.6	0291.5	07.8	166.6		
09/13	07:29 01	1469.7	07.0	340.1	0000.0	152.0	0296.1	08.0	165.5		
09/13	07:44 01	1484.3	07.0	342.2	0000.0	153.7	0295.1	08.4	167.0		
09/13	07:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1479.4	06.9	341.2	0000.0	153.1	0294.2	08.1	166.4	GOOD HOUR	
09/13	08:14 01	1449.0	06.9	342.4	0000.0	152.6	0284.9	08.5	165.5		
09/13	08:29 01	1510.2	06.9	343.9	0000.0	152.2	0313.9	08.5	166.2		
09/13	08:44 01	1480.9	06.9	343.6	0000.0	152.5	0305.0	08.7	165.5		
09/13	08:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1480.0	06.9	343.3	0000.0	152.4	0301.3	08.6	165.7	GOOD HOUR	
09/13	09:14 01	1431.7	06.9	343.2	0000.0	151.3	0299.7	08.6	165.2		
09/13	09:29 01	1375.2	07.6	345.3	0000.0	149.6	0297.7	09.8	164.8		
09/13	09:44 01	1485.6	07.1	344.2	0000.0	151.1	0294.3	08.9	165.9		
09/13	09:59 01	1457.7	06.9	342.1	0000.0	150.7	0264.7	08.6	165.2		
	AVERAGE	1437.6	07.1	343.7	0000.0	150.7	0289.1	09.0	165.3	GOOD HOUR	
09/13	10:14 01	1319.4	07.2	341.7	0000.0	150.4	0262.0	08.9	164.6		
09/13	10:29 01	1137.8	07.7	340.3	0000.0	150.3	0235.0	09.6	165.1		
09/13	10:44 01	1066.0	07.6	340.7	0000.0	152.2	0265.2	09.6	166.6		
09/13	10:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1174.4	07.5	340.9	0000.0	151.0	0254.1	09.4	165.4	GOOD HOUR	
09/13	11:14 01	1115.2	06.8	334.7	0000.0	148.7	0293.7	08.8	163.2		
09/13	11:29 01	1173.1	06.6	341.1	0000.0	163.9	0427.5	08.2	173.1		
09/13	11:44 01	1149.1	06.7	339.8	0000.0	173.8	0556.1	08.1	186.1		
09/13	11:45 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1145.8	06.7	338.5	0000.0	162.1	0425.8	08.4	174.1	GOOD HOUR	
09/13	12:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	12:18 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	12:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		

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EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 287)
PAGE NUMBER
A-89
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/13	12:48 01	1347.3	07.7	335.7	0000.0	180.8	1209.5	08.4	218.3		
	AVERAGE	1347.3	07.7	335.7	0000.0	180.8	1209.5	08.4	218.3	BAD HOUR	
09/13	13:03 01	1328.0	07.7	337.2	0000.0	162.1	0336.6	08.4	183.9		
09/13	13:18 01	1276.1	07.8	334.8	0000.0	157.8	0299.6	08.3	176.2		
09/13	13:33 00	0000.0	00.0	336.5	0000.0	000.0	0000.0	00.0	000.0		
09/13	13:48 01	1240.2	07.9	336.0	0000.0	157.5	0301.5	08.4	173.3		
	AVERAGE	1281.4	07.8	448.2	0000.0	159.1	0312.6	08.4	177.8	GOOD HOUR	
09/13	14:03 01	1083.3	08.8	339.1	0000.0	160.4	0291.1	09.6	174.9		
09/13	14:18 01	1147.8	08.6	338.6	0000.0	160.9	0305.0	09.6	175.3		
09/13	14:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	14:48 01	1107.9	09.5	342.9	0000.0	195.4	0861.8	10.1	195.0		
	AVERAGE	1113.0	09.0	340.2	0000.0	172.2	0486.0	09.8	181.7	GOOD HOUR	
09/13	15:03 01	1203.0	08.6	339.4	0000.0	165.4	0419.9	09.3	187.5		
09/13	15:18 01	1256.9	08.6	338.7	0000.0	159.0	0299.3	09.1	176.2		
09/13	15:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	15:48 01	1189.0	09.4	337.3	0000.0	164.4	0288.6	09.8	177.1		
	AVERAGE	1216.3	08.9	338.5	0000.0	162.9	0335.9	09.4	180.3	GOOD HOUR	
09/13	16:03 01	1033.4	10.7	334.8	0000.0	165.7	0272.9	11.1	178.1		
09/13	16:18 01	1060.0	10.2	335.1	0000.0	167.9	0457.9	10.7	175.1		
09/13	16:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	16:48 01	1234.2	08.5	336.1	0000.0	156.7	0309.5	08.9	180.9		
	AVERAGE	1109.2	09.8	335.3	0000.0	163.4	0346.8	10.2	178.0	GOOD HOUR	
09/13	17:03 01	1071.0	09.2	335.5	0000.0	157.3	0307.9	09.6	174.0		
09/13	17:18 01	1066.0	08.9	335.7	0000.0	160.8	0314.1	09.5	175.1		
09/13	17:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	17:48 01	1226.9	07.8	337.7	0000.0	159.5	0325.3	08.2	173.0		
	AVERAGE	1121.3	08.6	336.3	0000.0	159.2	0315.8	09.1	174.0	GOOD HOUR	
09/13	18:03 01	1205.6	08.2	342.9	0000.0	160.0	0314.9	08.7	173.8		
09/13	18:18 01	1276.1	07.7	342.4	0000.0	160.8	0309.1	08.1	173.5		
09/13	18:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	18:48 01	1246.9	07.7	342.3	0000.0	161.5	0281.7	08.2	173.8		
	AVERAGE	1242.9	07.9	342.5	0000.0	160.8	0301.9	08.3	173.7	GOOD HOUR	
09/13	19:03 01	1232.2	07.9	345.9	0000.0	162.7	0279.4	08.8	174.2		
09/13	19:18 01	1256.2	07.5	343.8	0000.0	181.3	0498.6	08.1	188.6		
09/13	19:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	19:48 01	1209.0	07.7	338.4	0000.0	165.6	0275.0	08.1	179.8		
	AVERAGE	1232.5	07.7	342.7	0000.0	169.9	0351.0	08.3	180.9	GOOD HOUR	
09/13	20:03 01	1196.3	07.8	338.8	0000.0	166.9	0275.7	08.1	175.6		
09/13	20:18 01	1215.6	07.9	337.9	0000.0	159.1	0282.4	08.4	173.1		
09/13	20:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	20:48 01	1180.4	07.4	341.5	0000.0	210.1	0810.2	08.2	220.0		
	AVERAGE	1197.4	07.7	339.4	0000.0	178.7	0456.1	08.2	189.6	GOOD HOUR	

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EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 287)
PAGE NUMBER
A-90
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TYPING GUIDE SHEET
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/13	21:03 01	1127.2	08.8	344.4	0000.0	176.6	0332.0	09.1	197.7		
09/13	21:18 01	1068.7	08.8	345.2	0000.0	167.3	0266.0	09.7	183.0		
09/13	21:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	21:48 01	1002.8	08.9	341.0	0000.0	161.1	0270.9	09.7	176.7		
	AVERAGE	1066.2	08.8	343.5	0000.0	168.3	0289.6	09.5	185.8	GOOD HOUR	
09/13	22:03 01	0950.3	09.5	339.6	0000.0	161.8	0268.4	10.1	174.9		
09/13	22:18 01	0844.6	10.4	337.9	0000.0	161.2	0260.1	11.0	175.3		
09/13	22:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	22:48 01	1294.8	07.6	339.2	0000.0	158.4	0341.7	08.3	171.7		
	AVERAGE	1029.9	09.2	338.9	0000.0	160.5	0290.1	09.8	174.0	GOOD HOUR	
09/13	23:03 01	1398.5	06.5	339.1	0000.0	163.6	0402.9	06.4	169.9		
09/13	23:18 01	1204.3	07.8	339.8	0000.0	158.9	0241.3	08.1	170.6		
09/13	23:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/13	23:48 01	1212.3	08.0	342.6	0000.0	163.1	0268.8	08.5	175.2		
	AVERAGE	1271.7	07.4	340.5	0000.0	161.9	0304.3	07.7	171.9	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:59	12.4E+07	17.6E+05	33.6E-01	00.0E-02	83.6E-02	100	75.1	GOOD HOUR
01:59	12.4E+07	17.4E+05	38.1E-01	00.0E-02	82.3E-02	100	78.4	GOOD HOUR
02:59	11.4E+07	16.8E+05	38.3E-01	00.0E-02	80.1E-02	100	79.1	GOOD HOUR
03:59	11.7E+07	16.8E+05	39.2E-01	00.0E-02	93.3E-02	100	76.2	GOOD HOUR
04:59	11.7E+07	17.0E+05	38.3E-01	00.0E-02	81.7E-02	100	78.7	GOOD HOUR
05:59	12.4E+07	19.0E+05	34.5E-01	00.0E-02	76.5E-02	100	77.9	GOOD HOUR
06:59	12.9E+07	18.6E+05	34.9E-01	00.0E-02	80.8E-02	100	76.9	GOOD HOUR
07:59	12.9E+07	18.9E+05	36.1E-01	00.0E-02	78.1E-02	100	78.4	GOOD HOUR
08:59	13.7E+07	20.1E+05	36.0E-01	00.0E-02	83.2E-02	100	76.9	GOOD HOUR
09:59	13.2E+07	19.7E+05	35.6E-01	00.0E-02	82.6E-02	100	76.8	GOOD HOUR
10:59	12.4E+07	19.1E+05	29.9E-01	00.0E-02	75.1E-02	100	74.9	GOOD HOUR
11:45	13.5E+07	19.5E+05	27.5E-01	00.0E-02	11.6E-01	100	57.9	GOOD HOUR
12:48	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
13:48	13.2E+07	20.7E+05	33.3E-01	00.0E-02	85.0E-02	100	74.5	GOOD HOUR
14:48	12.2E+07	21.0E+05	31.8E-01	00.0E-02	14.9E-01	100	53.2	GOOD HOUR
15:48	11.9E+07	20.4E+05	34.4E-01	00.0E-02	99.5E-02	100	71.1	GOOD HOUR
16:48	12.2E+07	22.5E+05	34.0E-01	00.0E-02	11.1E-01	100	67.5	GOOD HOUR
17:48	13.0E+07	21.7E+05	31.1E-01	00.0E-02	91.2E-02	100	70.7	GOOD HOUR
18:48	13.7E+07	21.6E+05	32.5E-01	00.0E-02	81.8E-02	100	74.8	GOOD HOUR
19:48	13.7E+07	21.3E+05	31.8E-01	00.0E-02	95.2E-02	100	70.1	GOOD HOUR
20:48	14.0E+07	21.7E+05	30.9E-01	00.0E-02	12.3E-01	100	60.3	GOOD HOUR
21:48	12.2E+07	20.7E+05	30.1E-01	00.0E-02	86.6E-02	100	71.2	GOOD HOUR
22:48	12.4E+07	21.8E+05	29.9E-01	00.0E-02	89.0E-02	100	70.2	GOOD HOUR
23:48	14.0E+07	21.3E+05	32.2E-01	00.0E-02	78.4E-02	100	75.6	GOOD HOUR
		AVERAGE	33.7E-01		91.4E-02		72.4	

GOOD DAY

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A 3/8"
EPA Form 2350-4 (4-80) [PREVIOUSLY CIN. EPA FORM 287]
PAGE NUMBER A-91
TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 14,1980"

SEPT 14,1980

ENTER FILE NAME
? IN9140
ENTER OUTPUT FILE NAME
? OUT9140
ENTER PROCESS DATA FILE NAME
? P9140
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	09549	00000	BT	NO
0200	08940	00000	BT	NO
0300	08940	00000	BT	NO
0400	09143	00000	BT	NO
0500	09546	00000	BT	NO
0600	09549	00000	BT	NO
0700	09955	00000	BT	NO
0800	10768	00000	BT	NO
0900	09123	00000	BT	NO
1000	09528	00000	BT	NO
1100	09123	00000	BT	NO
1200	08718	00000	BT	NO
1300	08718	00000	BT	NO

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3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 267)
PAGE NUMBER
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD; BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
TYPING GUIDE SHEET

1400	08515	00000	BT	NO
1500	08515	00000	BT	NO
1600	08515	00000	BT	NO
1700	08920	00000	BT	NO
1800	08920	00000	BT	NO
1900	08109	00000	BT	NO
2000	07907	00000	BT	NO
2100	07704	00000	BT	NO
2200	08718	00000	BT	NO
2300	08515	00000	BT	NO
2400	08920	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/14	00:03	01	1141.6	08.4	343.0	0000.0	160.1	0272.8	08.5	170.2	
09/14	00:18	01	1136.4	08.7	343.1	0000.0	158.9	0263.7	08.7	170.3	
09/14	00:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/14	00:48	01	1154.4	08.4	341.3	0000.0	157.0	0299.6	08.6	168.8	
		AVERAGE	1144.1	08.5	342.5	0000.0	158.7	0278.7	08.6	169.8	GOOD HOUR
09/14	01:03	01	1174.4	08.2	341.1	0000.0	155.9	0307.5	08.5	168.0	
09/14	01:18	01	1171.7	07.9	341.3	0000.0	157.0	0294.2	08.5	168.6	
09/14	01:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/14	01:48	01	1209.6	08.1	345.0	0000.0	157.2	0292.3	08.5	169.2	
		AVERAGE	1185.2	08.1	342.5	0000.0	156.7	0298.0	08.5	168.6	GOOD HOUR
09/14	02:03	01	1126.5	08.8	349.2	0000.0	179.6	0476.7	09.3	185.9	
09/14	02:18	01	1219.6	08.0	336.9	0000.0	161.7	0248.6	08.5	180.0	
09/14	02:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/14	02:48	01	1286.1	07.9	339.6	0000.0	159.8	0282.6	08.4	172.6	
		AVERAGE	1210.7	08.2	341.9	0000.0	167.0	0336.0	08.7	179.5	GOOD HOUR
09/14	03:03	01	1314.7	07.9	341.0	0000.0	159.4	0278.6	08.4	171.1	
09/14	03:18	01	1334.7	07.9	344.1	0000.0	159.6	0295.1	08.2	171.9	
09/14	03:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/14	03:48	01	1214.9	08.4	341.1	0000.0	157.0	0265.9	08.8	169.4	
		AVERAGE	1288.1	08.1	342.1	0000.0	158.7	0279.9	08.5	170.8	GOOD HOUR
09/14	04:03	01	1048.0	09.2	341.4	0000.0	158.5	0246.3	09.8	169.6	

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3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 287)
PAGE NUMBER
A-93
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA - OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/14	04:18 01	1161.8	07.6	341.8	0000.0	158.4	0290.5	08.1	170.7		
09/14	04:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	04:48 01	1177.7	06.4	343.8	0000.0	172.0	0265.9	07.5	182.4		
	AVERAGE	1129.2	07.7	342.3	0000.0	163.0	0267.6	08.5	174.2	GOOD HOUR	
09/14	05:03 01	1100.6	07.0	341.8	0000.0	174.2	0427.1	07.4	186.6		
09/14	05:18 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	05:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	05:48 01	1138.5	07.8	341.0	0000.0	154.1	0254.8	08.2	167.2		
	AVERAGE	1119.6	07.4	341.4	0000.0	164.2	0341.0	07.8	176.9	GOOD HOUR	
09/14	06:03 01	1162.4	07.8	341.6	0000.0	152.2	0291.4	08.1	166.8		
09/14	06:18 01	1189.0	07.5	342.5	0000.0	152.3	0294.2	07.7	166.7		
09/14	06:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	06:48 01	1093.3	08.0	342.3	0000.0	153.1	0272.8	08.2	166.4		
	AVERAGE	1148.2	07.8	342.1	0000.0	152.5	0286.1	08.0	166.6	GOOD HOUR	
09/14	07:03 01	1040.1	08.5	339.7	0000.0	151.4	0272.1	08.8	165.9		
09/14	07:18 01	1036.1	07.9	342.1	0000.0	153.9	0289.1	08.9	168.2		
09/14	07:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	07:48 01	1057.4	07.7	341.4	0000.0	154.3	0407.8	07.9	167.3		
	AVERAGE	1044.5	08.0	341.1	0000.0	153.2	0323.0	08.5	167.1	GOOD HOUR	
09/14	08:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	08:18 01	0903.1	09.6	340.9	0000.0	151.1	0273.0	09.4	166.5		
09/14	08:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	08:48 01	0859.2	10.0	340.4	0000.0	149.8	0268.3	10.3	166.4		
	AVERAGE	0881.2	09.8	340.7	0000.0	150.5	0270.6	09.9	166.4	GOOD HOUR	
09/14	09:03 01	0835.2	09.8	339.0	0000.0	149.7	0268.9	10.1	165.5		
09/14	09:18 01	0770.1	10.2	341.9	0000.0	152.0	0281.3	10.7	168.0		
09/14	09:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	09:48 01	0902.4	09.0	338.3	0000.0	206.6	0922.2	09.1	198.5		
	AVERAGE	0835.9	09.7	339.7	0000.0	169.4	0490.8	10.0	177.3	GOOD HOUR	
09/14	10:03 01	0853.9	09.5	337.4	0000.0	168.6	0549.8	09.6	197.3		
09/14	10:18 01	0864.5	09.4	337.0	0000.0	159.0	0317.7	09.6	180.5		
09/14	10:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	10:48 01	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0859.2	09.4	337.2	0000.0	163.8	0433.7	09.6	188.9	GOOD HOUR	
09/14	11:03 01	0801.3	09.7	336.6	0000.0	154.7	0273.3	10.2	171.7		
09/14	11:18 01	0780.7	09.9	335.5	0000.0	154.6	0269.6	10.5	170.8		
09/14	11:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	11:48 01	0780.7	09.6	333.6	0000.0	169.4	0443.3	10.2	177.1		
	AVERAGE	0787.6	09.7	335.2	0000.0	159.6	0328.7	10.3	173.2	GOOD HOUR	
09/14	12:03 01	0782.7	09.6	326.9	0000.0	162.1	0325.3	10.1	186.4		
09/14	12:18 01	0734.8	09.9	327.0	0000.0	154.9	0270.9	10.6	172.6		
09/14	12:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		

09/14	12:48 01	0748.1	09.6	330.4	0000.0	155.4	0278.5	10.2	170.7		
	AVERAGE	0755.2	09.7	328.1	0000.0	157.5	0291.6	10.3	176.6	GOOD	HOUR
09/14	13:03 01	0760.8	09.8	331.3	0000.0	153.8	0293.1	10.1	169.3		
09/14	13:18 01	0647.0	10.4	334.0	0000.0	155.1	0298.8	11.1	169.6		
09/14	13:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	13:48 01	0657.7	09.9	328.5	0000.0	152.0	0276.1	10.6	166.9		
	AVERAGE	0689.5	10.0	331.3	0000.0	153.6	0276.0	10.6	168.6	GOOD	HOUR
09/14	14:03 01	0651.0	09.9	328.7	0000.0	152.5	0269.2	10.6	166.8		
09/14	14:18 01	0653.0	09.8	329.6	0000.0	154.2	0273.8	10.6	168.1		
09/14	14:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	14:48 01	0727.5	09.6	328.7	0000.0	153.2	0272.1	10.3	167.0		
	AVERAGE	0677.2	09.8	329.0	0000.0	153.3	0271.7	10.5	167.3	GOOD	HOUR
09/14	15:03 01	0712.2	09.9	379.4	0000.0	150.9	0285.0	10.6	167.4		
09/14	15:18 01	0784.0	08.6	328.5	0000.0	151.6	0279.8	09.7	165.7		
09/14	15:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	15:48 01	0802.7	09.2	329.7	0000.0	159.2	0303.2	09.9	169.4		
	AVERAGE	0766.3	09.2	345.9	0000.0	153.9	0289.3	10.1	167.5	GOOD	HOUR
09/14	16:03 01	0800.7	09.3	330.8	0000.0	161.5	0270.3	09.6	170.3		
09/14	16:18 01	0783.4	09.5	330.2	0000.0	167.4	0245.7	09.7	170.1		
09/14	16:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	16:48 01	0780.7	09.4	331.0	0000.0	163.0	0255.4	09.8	171.7		
	AVERAGE	0788.3	09.4	330.7	0000.0	164.0	0257.1	09.7	170.7	GOOD	HOUR
09/14	17:03 01	0796.7	09.9	333.5	0000.0	163.1	0290.3	10.0	172.9		
09/14	17:18 01	0802.0	09.9	333.1	0000.0	164.6	0261.1	10.5	173.2		
09/14	17:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	17:48 01	0807.3	09.9	331.3	0000.0	159.0	0252.4	10.1	170.5		
	AVERAGE	0802.0	09.9	332.6	0000.0	162.2	0267.9	10.2	172.2	GOOD	HOUR
09/14	18:03 01	0827.3	09.7	331.7	0000.0	160.2	0244.6	10.0	170.1		
09/14	18:18 01	0789.4	09.9	331.9	0000.0	162.2	0238.1	10.2	169.8		
09/14	18:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	18:48 01	0663.0	10.5	332.5	0000.0	160.7	0274.5	10.8	170.8		
	AVERAGE	0759.9	10.0	332.0	0000.0	161.0	0252.4	10.3	170.2	GOOD	HOUR
09/14	19:03 01	0564.6	11.2	333.8	0000.0	186.2	0359.4	11.7	184.4		
09/14	19:18 01	0657.7	10.0	330.9	0000.0	192.0	0535.6	10.7	200.2		
09/14	19:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	19:48 01	0640.4	10.8	333.1	0000.0	166.2	0285.7	11.4	180.3		
	AVERAGE	0620.9	10.7	332.6	0000.0	181.5	0393.6	11.3	188.3	GOOD	HOUR
09/14	20:03 01	0665.7	10.6	333.9	0000.0	164.8	0286.3	11.3	178.0		
09/14	20:18 01	0714.2	10.2	334.8	0000.0	165.5	0273.2	10.6	175.6		
09/14	20:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/14	20:48 01	0708.2	10.1	334.8	0000.0	164.5	0275.3	10.8	174.8		
	AVERAGE	0696.0	10.3	334.5	0000.0	164.9	0278.3	10.9	176.1	GOOD	HOUR

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DROPPED HEAD: BEGIN SECTIONS HERE
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3/8"
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 247)
TYPING GUIDE SHEET

09/14	21:03	01	0777.4	09.5	335.8	0000.0	162.1	0269.4	10.2	173.6	
09/14	21:18	01	0762.1	10.1	334.9	0000.0	163.8	0251.4	10.6	173.5	
09/14	21:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/14	21:48	01	0790.0	10.0	333.6	0000.0	162.7	0262.9	10.6	172.4	
		AVERAGE	0776.5	09.9	334.8	0000.0	162.9	0261.2	10.5	173.2	GOOD HOUR
09/14	22:03	01	0850.5	09.8	334.0	0000.0	164.7	0272.7	10.3	174.0	
09/14	22:18	01	0869.8	09.7	335.0	0000.0	166.0	0271.7	10.2	174.2	
09/14	22:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/14	22:48	01	0932.3	09.0	334.7	0000.0	165.8	0285.2	09.1	173.8	
		AVERAGE	0884.2	09.5	334.6	0000.0	165.5	0276.5	09.9	174.0	GOOD HOUR
09/14	23:03	01	0889.8	09.6	332.1	0000.0	161.1	0271.5	09.2	171.7	
09/14	23:18	01	0855.2	09.9	333.2	0000.0	161.2	0285.6	10.7	172.8	
09/14	23:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/14	23:48	01	0913.0	09.0	332.4	0000.0	160.0	0277.4	09.9	170.7	
		AVERAGE	0886.0	09.5	332.6	0000.0	160.8	0278.2	09.9	171.7	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:48	11.9E+07	19.8E+05	31.4E-01	00.0E-02	77.2E-02	100	75.4	GOOD HOUR
01:48	11.2E+07	17.9E+05	31.5E-01	00.0E-02	81.9E-02	100	74.0	GOOD HOUR
02:48	11.2E+07	18.1E+05	32.6E-01	00.0E-02	94.1E-02	100	71.1	GOOD HOUR
03:48	11.4E+07	18.3E+05	34.2E-01	00.0E-02	76.7E-02	100	77.6	GOOD HOUR
04:48	11.9E+07	18.6E+05	29.2E-01	00.0E-02	73.3E-02	100	74.9	GOOD HOUR
05:48	11.9E+07	18.1E+05	28.3E-01	00.0E-02	88.7E-02	100	68.6	GOOD HOUR
06:48	12.4E+07	19.4E+05	29.8E-01	00.0E-02	75.6E-02	100	74.6	GOOD HOUR
07:48	13.5E+07	21.5E+05	27.7E-01	00.0E-02	89.0E-02	100	67.8	GOOD HOUR
08:48	11.4E+07	21.1E+05	27.0E-01	00.0E-02	83.4E-02	100	69.1	GOOD HOUR
09:48	11.9E+07	21.1E+05	23.7E-01	00.0E-02	84.3E-03	100	96.4	GOOD HOUR
10:48	11.4E+07	20.7E+05	25.1E-01	00.0E-02	11.7E-01	100	53.6	GOOD HOUR
11:48	10.9E+07	20.0E+05	24.0E-01	00.0E-02	10.6E-01	100	56.0	GOOD HOUR
12:48	10.9E+07	20.0E+05	23.0E-01	00.0E-02	93.7E-02	100	59.2	GOOD HOUR
13:48	10.6E+07	20.1E+05	21.6E-01	00.0E-02	91.3E-02	100	57.7	GOOD HOUR
14:48	10.6E+07	19.6E+05	20.7E-01	00.0E-02	89.0E-02	100	57.0	GOOD HOUR
15:48	10.6E+07	18.7E+05	22.4E-01	00.0E-02	91.0E-02	100	59.3	GOOD HOUR
16:48	11.2E+07	19.9E+05	23.4E-01	00.0E-02	78.2E-02	100	66.5	GOOD HOUR
17:48	11.2E+07	20.8E+05	24.8E-01	00.0E-02	85.3E-02	100	65.7	GOOD HOUR
18:48	10.1E+07	19.1E+05	23.8E-01	00.0E-02	81.4E-02	100	65.8	GOOD HOUR
19:48	98.8E+06	19.8E+05	20.7E-01	00.0E-02	13.9E-01	100	32.7	GOOD HOUR
20:48	96.3E+06	18.6E+05	22.4E-01	00.0E-02	94.8E-02	100	57.6	GOOD HOUR
21:48	10.9E+07	20.3E+05	24.0E-01	00.0E-02	85.3E-02	100	64.4	GOOD HOUR
22:48	10.6E+07	19.2E+05	26.4E-01	00.0E-02	85.4E-02	100	67.7	GOOD HOUR
23:48	11.2E+07	20.1E+05	26.5E-01	00.0E-02	86.4E-02	100	67.4	GOOD HOUR
		AVERAGE	26.1E-01		92.3E-02		65.8	

GOOD DAY

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3/8"
EPA Form 2250-4 (4-80)
(PREVIOUSLY CIN, EPA FORM 287)
PAGE NUMBER
A-96
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FOD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT 15,1980"

SEPT 15,1980

ENTER FILE NAME
 ? IN9150
ENTER OUTPUT FILE NAME
 ? OUT9150
ENTER PROCESS DATA FILE NAME
 ? P9150
ENTER HEAT INPUT CONTENT
 ? 12500
```

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	09934	00000	BT	NO
0200	09731	00000	BT	NO
0300	09731	00000	BT	NO
0400	09529	00000	BT	NO
0500	08920	00000	BT	NO
0600	09123	00000	BT	NO
0700	09731	00000	BT	NO
0800	09731	00000	BT	NO
0900	08016	00000	BT	NO
1000	08780	00000	BT	NO
1100	08207	00000	BT	NO
1200	08398	00000	BT	NO
1300	09352	00000	BT	NO

1400	09734	00000	BT	NO
1500	08207	00000	BT	NO
1600	07825	00000	BT	NO
1700	08398	00000	BT	NO
1800	09734	00000	BT	NO
1900	09925	00000	BT	NO
2000	09543	00000	BT	NO
2100	08970	00000	BT	NO
2200	08207	00000	BT	NO
2300	08970	00000	BT	NO
2400	09161	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/15	00:03	01	0957.6	08.5	334.6	0000.0	162.1	0291.1	09.5	172.0	
09/15	00:18	01	0931.0	09.1	334.9	0000.0	163.2	0251.5	10.0	172.5	
09/15	00:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/15	00:48	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0944.3	08.8	334.8	0000.0	162.7	0271.3	09.8	172.2	GOOD HOUR
09/15	01:03	01	0816.0	09.8	334.0	0000.0	160.9	0258.3	10.4	171.4	
09/15	01:18	01	0863.8	09.8	337.0	0000.0	161.3	0378.2	10.2	173.8	
09/15	01:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/15	01:48	01	0860.5	09.8	333.1	0000.0	161.5	0277.6	10.3	171.4	
		AVERAGE	0846.8	09.8	334.7	0000.0	161.2	0304.7	10.3	172.2	GOOD HOUR
09/15	02:03	01	0814.6	10.2	334.6	0000.0	177.0	0383.9	10.7	180.9	
09/15	02:18	01	0850.5	10.0	336.1	0000.0	178.8	0299.4	10.4	189.2	
09/15	02:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/15	02:48	01	0933.7	09.1	331.3	0000.0	162.7	0255.1	09.7	177.4	
		AVERAGE	0866.3	09.8	334.0	0000.0	172.8	0312.8	10.3	182.5	GOOD HOUR
09/15	03:03	01	0867.8	09.6	331.9	0000.0	162.6	0276.8	10.2	175.8	
09/15	03:18	01	0780.7	09.9	330.2	0000.0	161.0	0296.2	10.7	174.3	
09/15	03:33	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/15	03:48	01	0871.8	09.0	329.6	0000.0	160.2	0298.5	09.3	173.9	
		AVERAGE	0840.1	09.5	330.6	0000.0	161.3	0290.5	10.1	174.7	GOOD HOUR
09/15	04:03	01	0899.1	08.8	332.2	0000.0	161.9	0290.6	09.1	174.7	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN: EPA FORM 227)
PAGE NUMBER
A-98
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD; BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/15	04:18 01	0932.9	08.5	332.6	0000.0	162.1	0280.9	09.0	174.9		
09/15	04:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	04:48 01	0850.5	09.4	328.8	0000.0	161.1	0300.8	09.8	173.5		
	AVERAGE	0894.2	08.9	331.2	0000.0	161.7	0290.8	09.3	174.4	GOOD HOUR	
09/15	05:03 01	0832.6	09.5	329.5	0000.0	160.7	0265.2	09.9	173.2		
09/15	05:18 01	0840.6	09.0	329.1	0000.0	160.4	0294.1	09.7	171.6		
09/15	05:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	05:48 01	1008.8	09.5	334.0	0000.0	164.6	0278.2	09.6	174.2		
	AVERAGE	0894.0	09.3	330.9	0000.0	161.9	0279.2	09.7	173.0	GOOD HOUR	
09/15	06:03 01	1133.8	09.2	334.6	0000.0	161.2	0363.8	09.4	176.4		
09/15	06:18 01	1301.4	08.9	334.5	0000.0	161.1	0434.4	08.9	177.2		
09/15	06:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	06:48 01	1142.5	09.6	334.8	0000.0	162.0	0320.5	09.6	177.6		
	AVERAGE	1192.6	09.2	334.6	0000.0	161.4	0372.9	09.3	177.1	GOOD HOUR	
09/15	07:03 01	1228.9	09.6	334.7	0000.0	161.8	0342.7	09.7	177.5		
09/15	07:18 01	1421.1	09.1	333.8	0000.0	161.8	0436.9	09.1	178.0		
09/15	07:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	07:48 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1325.0	09.3	334.3	0000.0	161.8	0389.8	09.4	177.8	GOOD HOUR	
09/15	08:03 01	1365.2	09.4	330.9	0000.0	157.0	0470.0	09.5	174.5		
09/15	08:18 01	1233.6	09.2	330.8	0000.0	157.0	0380.1	09.3	174.5		
09/15	08:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	08:48 01	0962.9	09.8	333.3	0000.0	160.9	0363.9	12.0	180.1		
	AVERAGE	1187.2	09.5	331.7	0000.0	158.3	0404.7	10.3	176.4	GOOD HOUR	
09/15	09:03 01	0829.9	10.3	333.0	0000.0	160.3	0295.8	12.8	175.6		
09/15	09:18 01	0708.2	10.8	331.0	0000.0	162.8	0247.4	13.0	175.4		
09/15	09:33 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	09:37 01	0730.2	10.1	330.9	0000.0	161.1	0281.6	10.5	176.1		
	AVERAGE	0756.1	10.4	331.6	0000.0	161.4	0274.9	12.1	175.7	GOOD HOUR	
09/15	10:15 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	10:30 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	10:45 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	10:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/15	11:05 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	11:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	11:35 01	0889.1	10.4	323.7	0000.0	159.8	0306.2	10.8	180.3		
09/15	11:50 01	0991.5	09.5	323.4	0000.0	157.2	0302.0	10.0	178.2		
	AVERAGE	0940.3	10.0	323.6	0000.0	158.5	0304.1	10.4	179.3	GOOD HOUR	
09/15	12:05 01	1082.9	10.3	321.3	0000.0	156.7	0316.0	10.6	176.8		
09/15	12:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	12:35 01	1292.8	10.5	329.0	0000.0	159.5	0376.1	10.8	178.1		

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY GIN. EPA FORM 231)
PAGE NUMBER
A-99
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD. BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/15	12:50	01	1393.2	09.9	328.5	0000.0	157.7	0401.8	10.1	175.6		
		AVERAGE	1256.3	10.2	326.3	0000.0	158.0	0364.6	10.5	176.8	GOOD HOUR	
09/15	13:05	01	1443.1	10.1	332.1	0000.0	157.9	0468.8	10.2	174.8		
09/15	13:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	13:35	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	13:50	01	1732.9	08.9	328.6	0000.0	149.1	0495.0	08.9	171.4		
		AVERAGE	1588.0	09.5	330.4	0000.0	153.5	0481.9	09.6	173.1	GOOD HOUR	
09/15	14:05	01	1764.9	08.9	329.6	0000.0	154.1	0530.8	09.0	175.3		
09/15	14:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	14:35	01	1796.2	09.0	330.6	0000.0	178.2	0534.6	09.0	202.9		
09/15	14:50	01	1792.8	09.1	334.6	0000.0	161.3	0633.6	09.2	185.4		
		AVERAGE	1784.6	09.0	331.6	0000.0	164.5	0566.3	09.1	187.9	GOOD HOUR	
09/15	15:05	01	1653.2	10.0	330.4	0000.0	154.2	0466.4	10.4	176.2		
09/15	15:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	15:35	01	1678.5	09.9	330.2	0000.0	150.0	0404.5	10.5	172.0		
09/15	15:50	01	1669.2	09.8	329.5	0000.0	147.9	0373.9	10.4	170.8		
		AVERAGE	1667.0	09.9	330.0	0000.0	150.7	0414.9	10.4	173.0	GOOD HOUR	
09/15	16:05	01	1669.2	09.9	328.5	0000.0	148.9	0368.7	10.2	169.4		
09/15	16:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	16:35	01	1463.0	10.3	330.0	0000.0	149.9	0261.7	10.8	169.5		
09/15	16:50	01	1298.1	11.1	332.5	0000.0	150.1	0232.8	12.0	171.4		
		AVERAGE	1476.8	10.4	330.3	0000.0	149.6	0287.7	11.0	170.1	GOOD HOUR	
09/15	17:05	01	1344.0	10.2	335.6	0000.0	151.5	0185.5	10.8	172.3		
09/15	17:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	17:35	01	1297.4	10.0	335.1	0000.0	153.5	0225.3	10.9	171.9		
09/15	17:50	01	1454.4	08.5	334.4	0000.0	153.6	0270.5	09.3	171.5		
		AVERAGE	1365.3	09.6	335.0	0000.0	152.9	0227.1	10.3	171.9	GOOD HOUR	
09/15	18:05	01	1310.1	08.8	336.1	0000.0	152.1	0296.6	09.5	174.0		
09/15	18:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	18:35	01	1445.7	08.3	335.6	0000.0	154.2	0285.2	09.0	172.1		
09/15	18:50	01	1709.1	07.7	337.0	0000.0	155.4	0344.5	08.5	170.7		
		AVERAGE	1488.3	08.3	336.2	0000.0	153.9	0308.8	09.0	172.3	GOOD HOUR	
09/15	19:05	01	1883.9	07.2	340.7	0000.0	157.5	0440.6	07.6	172.1		
09/15	19:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	19:35	01	1748.3	08.3	339.3	0000.0	178.6	0997.1	08.7	183.7		
09/15	19:50	01	1711.0	08.2	334.4	0000.0	159.1	0467.7	08.7	180.5		
		AVERAGE	1781.1	07.9	338.1	0000.0	165.1	0635.1	08.3	178.8	GOOD HOUR	
09/15	20:05	01	1636.6	08.6	336.5	0000.0	155.6	0337.0	09.2	174.1		
09/15	20:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/15	20:35	01	1648.5	07.9	338.6	0000.0	153.5	0300.2	08.6	171.0		
09/15	20:50	01	1647.2	08.1	338.2	0000.0	152.9	0295.7	08.8	170.7		
		AVERAGE	1644.1	08.2	337.8	0000.0	154.0	0311.0	08.9	171.9	GOOD HOUR	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN, EPA FORM 287)
PAGE NUMBER
A-100
TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

09/15	21:05	01	1444.4	09.3	340.5	0000.0	152.2	0542.6	10.2	170.7	
09/15	21:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/15	21:35	01	1439.7	08.8	338.5	0000.0	152.6	0245.3	09.6	170.0	
09/15	21:50	01	1346.6	09.1	339.4	0000.0	153.1	0263.9	03.7	170.6	
		AVERAGE	1410.2	09.1	339.5	0000.0	152.6	0350.6	07.8	170.4	GOOD HOUR
09/15	22:05	01	1347.3	09.4	339.5	0000.0	154.1	0275.6	10.0	170.7	
09/15	22:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/15	22:35	01	1157.1	10.6	339.4	0000.0	154.9	0255.0	11.7	170.5	
09/15	22:50	01	1173.1	10.0	340.4	0000.0	155.3	0287.9	11.5	170.5	
		AVERAGE	1225.8	10.0	339.8	0000.0	154.8	0272.8	11.1	170.6	GOOD HOUR
09/15	23:05	01	1235.6	09.6	340.8	0000.0	155.1	0282.6	10.6	169.8	
09/15	23:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/15	23:35	01	1170.4	09.2	341.0	0000.0	156.1	0264.4	09.9	170.4	
09/15	23:50	01	1426.4	08.2	339.8	0000.0	154.8	0319.7	08.7	168.6	
		AVERAGE	1277.5	09.0	340.5	0000.0	155.3	0288.9	09.7	169.6	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:48	12.4E+07	21.1E+05	26.6E-01	00.0E-02	82.9E-02	100	68.8	GOOD HOUR
01:48	12.2E+07	22.5E+05	26.0E-01	00.0E-02	97.9E-02	100	62.3	GOOD HOUR
02:48	12.2E+07	22.4E+05	26.5E-01	00.0E-02	10.0E-01	100	62.2	GOOD HOUR
03:48	11.9E+07	21.4E+05	25.1E-01	00.0E-02	91.4E-02	100	63.6	GOOD HOUR
04:48	11.2E+07	19.1E+05	25.4E-01	00.0E-02	85.4E-02	100	66.4	GOOD HOUR
05:48	11.4E+07	20.2E+05	26.3E-01	00.0E-02	85.2E-02	100	67.7	GOOD HOUR
06:48	12.2E+07	21.4E+05	34.8E-01	00.0E-02	11.0E-01	100	68.6	GOOD HOUR
07:48	12.2E+07	21.6E+05	39.1E-01	00.0E-02	11.5E-01	100	70.5	GOOD HOUR
08:48	10.0E+07	18.0E+05	35.4E-01	00.0E-02	13.0E-01	100	63.4	GOOD HOUR
09:37	11.0E+07	21.5E+05	24.5E-01	00.0E-02	10.6E-01	100	56.6	GOOD HOUR
10:59	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
11:50	10.5E+07	19.7E+05	29.3E-01	00.0E-02	98.7E-02	100	66.3	GOOD HOUR
12:50	11.7E+07	22.5E+05	40.1E-01	00.0E-02	11.9E-01	100	70.2	GOOD HOUR
13:50	12.2E+07	21.9E+05	47.5E-01	00.0E-02	14.5E-01	100	69.5	GOOD HOUR
14:50	10.3E+07	17.7E+05	51.1E-01	00.0E-02	16.3E-01	100	68.1	GOOD HOUR
15:50	97.8E+06	18.2E+05	51.6E-01	00.0E-02	13.5E-01	100	73.8	GOOD HOUR
16:50	10.5E+07	20.6E+05	48.1E-01	00.0E-02	99.0E-02	100	79.4	GOOD HOUR
17:50	12.2E+07	22.0E+05	41.0E-01	00.0E-02	73.2E-02	100	82.2	GOOD HOUR
18:50	12.4E+07	20.2E+05	40.1E-01	00.0E-02	88.4E-02	100	78.0	GOOD HOUR
19:50	11.9E+07	18.8E+05	46.7E-01	00.0E-02	17.2E-01	100	63.1	GOOD HOUR
20:50	11.2E+07	18.1E+05	44.1E-01	00.0E-02	88.0E-02	100	80.0	GOOD HOUR
21:50	10.3E+07	17.8E+05	40.6E-01	00.0E-02	91.4E-02	100	77.5	GOOD HOUR
22:50	11.2E+07	21.1E+05	38.3E-01	00.0E-02	94.5E-02	100	75.3	GOOD HOUR
23:50	11.5E+07	19.7E+05	36.6E-01	00.0E-02	88.1E-02	100	75.9	GOOD HOUR
		AVERAGE	36.7E-01		10.7E-01		70.0	

GOOD DAY

BEGIN LAST LINE OF TE...
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN, EPA FORM 287)
PAGE NUMBER
A-101
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

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ENTER DATE OF TEST
 ? "SEPT 16,1980"
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SEPT 16,1980

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ENTER FILE NAME
 ? IN9160
ENTER OUTPUT FILE NAME
 ? OUT9160
ENTER PROCESS DATA FILE NAME
 ? P9160
ENTER HEAT INPUT CONTENT
 ? 12500
```

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	09161	00000	BT	NO
0200	09543	00000	BT	NO
0300	08970	00000	BT	NO
0400	08588	00000	BT	NO
0500	08588	00000	BT	NO
0600	09161	00000	BT	NO
0700	08398	00000	BT	NO
0800	09352	00000	BT	NO
0900	09378	00000	BT	NO
1000	08205	00000	BT	NO
1100	08205	00000	BT	NO
1200	09378	00000	BT	NO
1300	08596	00000	BT	NO

1400	08205	00000	BT	NO
1500	08596	00000	BT	NO
1600	10159	00000	BT	NO
1700	08987	00000	BT	NO
1800	08791	00000	BT	NO
1900	08791	00000	BT	NO
2000	09768	00000	BT	NO
2100	09378	00000	BT	NO
2200	08791	00000	BT	NO
2300	09182	00000	BT	NO
2400	09768	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/16	00:05	01	1391.8	08.8	339.5	0000.0	154.9	0305.4	09.4	168.6	
09/16	00:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	00:35	01	1249.5	09.6	341.7	0000.0	156.8	0285.2	10.3	169.1	
09/16	00:50	01	1477.6	09.3	340.9	0000.0	154.4	0307.5	10.1	167.1	
		AVERAGE	1373.0	09.2	340.7	0000.0	155.4	0299.4	09.9	168.3	GOOD HOUR
09/16	01:05	01	1455.7	09.5	337.0	0000.0	155.1	0305.2	10.2	169.0	
09/16	01:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	01:35	01	1627.3	08.8	347.3	0000.0	156.4	0313.3	09.7	169.4	
09/16	01:50	01	1824.1	08.5	343.4	0000.0	154.9	0324.5	09.1	168.2	
		AVERAGE	1635.7	08.9	342.6	0000.0	155.5	0314.3	09.7	168.9	GOOD HOUR
09/16	02:05	01	2012.9	08.4	342.7	0000.0	182.4	0823.5	08.9	185.8	
09/16	02:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	02:35	01	1891.3	09.2	336.8	0000.0	155.5	0343.0	10.0	171.3	
09/16	02:50	01	1917.9	09.1	336.3	0000.0	154.0	0345.8	09.7	168.0	
		AVERAGE	1940.7	08.9	338.6	0000.0	164.0	0504.1	09.5	175.0	GOOD HOUR
09/16	03:05	01	1844.0	09.3	337.3	0000.0	154.7	0332.8	10.0	168.5	
09/16	03:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	03:35	01	1832.1	09.2	338.5	0000.0	154.1	0306.3	09.9	168.4	
09/16	03:50	01	1842.1	09.4	340.4	0000.0	155.1	0314.3	09.9	168.6	
		AVERAGE	1839.4	09.3	338.7	0000.0	154.6	0317.8	09.9	168.5	GOOD HOUR
09/16	04:05	01	1788.9	09.3	339.4	0000.0	153.6	0357.8	10.2	167.3	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 247)
PAGE NUMBER
A-103
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD; BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/16	04:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	04:35	01	1769.6	09.3	340.8	0000.0	153.1	0287.1	10.1	168.0	
09/16	04:50	01	1814.1	09.2	344.1	0000.0	155.1	0291.8	10.2	170.0	
		AVERAGE	1790.9	09.3	341.4	0000.0	153.9	0312.2	10.2	168.4	GOOD HOUR
09/16	05:05	01	1803.5	09.3	341.8	0000.0	152.9	0344.5	10.1	167.6	
09/16	05:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	05:35	01	1286.8	10.6	342.9	0000.0	155.8	0282.5	12.1	168.9	
09/16	05:50	01	1342.6	10.1	343.2	0000.0	154.7	0266.4	11.1	168.7	
		AVERAGE	1477.6	10.0	342.6	0000.0	154.5	0297.8	11.1	168.4	GOOD HOUR
09/16	06:05	01	1356.6	09.9	342.3	0000.0	155.9	0348.9	10.9	170.1	
09/16	06:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	06:35	01	1399.2	09.4	340.4	0000.0	156.2	0475.6	10.1	169.4	
09/16	06:50	01	1411.8	09.6	338.8	0000.0	155.0	0499.8	10.3	169.4	
		AVERAGE	1389.2	09.6	340.5	0000.0	155.7	0441.4	10.4	169.6	GOOD HOUR
09/16	07:05	01	1394.5	10.2	337.1	0000.0	154.1	0494.1	11.2	168.4	
09/16	07:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	07:35	01	1588.0	09.4	338.8	0000.0	154.4	0643.9	10.6	169.6	
09/16	07:50	01	1717.0	09.2	341.6	0000.0	156.9	0792.0	10.3	170.1	
		AVERAGE	1566.5	09.6	339.2	0000.0	155.1	0643.3	10.7	169.4	GOOD HOUR
09/16	08:05	01	1828.1	08.8	342.4	0000.0	162.1	0132.6	09.7	183.8	
09/16	08:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	08:35	01	1806.8	09.0	340.2	0000.0	154.2	0843.4	09.8	176.8	
09/16	08:50	01	1802.2	08.7	342.3	0000.0	155.4	0708.5	09.8	176.9	
		AVERAGE	1812.4	08.8	341.6	0000.0	157.2	0561.5	09.8	179.2	GOOD HOUR
09/16	09:05	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	09:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	09:35	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	09:50	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/16	10:11	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	10:26	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	10:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	10:56	01	1032.7	11.2	340.2	0000.0	148.5	0256.3	11.8	163.3	
		AVERAGE	1032.7	11.2	340.2	0000.0	148.5	0256.3	11.8	163.3	BAD HOUR
09/16	11:10	01	1039.4	11.1	336.2	0000.0	144.2	0266.0	11.8	158.5	
09/16	11:26	01	1104.6	10.8	340.5	0000.0	148.1	0281.8	11.4	163.2	
09/16	11:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	11:56	01	1344.6	09.3	334.4	0000.0	153.6	0350.5	09.4	174.2	
		AVERAGE	1162.9	10.4	337.0	0000.0	148.6	0299.4	10.9	165.3	GOOD HOUR
09/16	12:11	01	1417.1	09.1	336.3	0000.0	150.1	0310.9	09.2	169.2	
09/16	12:26	01	1534.2	08.4	335.8	0000.0	145.5	0323.9	08.4	166.9	
09/16	12:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
A-104
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/16	12:56 01	1367.9	09.4	337.0	0000.0	145.2	0230.0	09.8	164.6		
	AVERAGE	1439.7	09.0	336.4	0000.0	146.9	0288.3	09.1	166.9	GOOD HOUR	
09/16	13:11 01	1369.9	09.6	335.1	0000.0	143.5	0241.1	09.9	163.2		
09/16	13:26 01	1256.9	10.1	337.9	0000.0	145.3	0257.4	10.4	164.7		
09/16	13:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/16	13:56 01	1237.6	09.7	341.3	0000.0	147.4	0259.1	10.2	166.7		
	AVERAGE	1288.1	09.8	339.1	0000.0	145.4	0252.5	10.2	164.9	GOOD HOUR	
09/16	14:11 01	1207.0	10.1	338.6	0000.0	146.4	0241.7	10.6	165.1		
09/16	14:26 01	1121.8	10.5	335.8	0000.0	144.0	0242.5	11.1	163.5		
09/16	14:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/16	14:56 01	1336.7	09.9	338.6	0000.0	146.2	0267.3	10.7	166.2		
	AVERAGE	1221.8	10.2	337.7	0000.0	145.5	0250.5	10.8	164.9	GOOD HOUR	
09/16	15:11 01	1067.3	10.1	335.4	0000.0	143.5	0244.7	10.8	164.4		
09/16	15:26 01	1045.4	09.3	337.1	0000.0	144.6	0262.9	10.5	165.6		
09/16	15:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/16	15:56 01	1303.4	08.1	337.8	0000.0	146.2	0287.3	08.6	165.2		
	AVERAGE	1138.7	09.2	336.8	0000.0	144.8	0265.0	10.0	165.1	GOOD HOUR	
09/16	16:11 01	1307.4	08.4	338.9	0000.0	147.1	0260.9	08.8	165.3		
09/16	16:26 01	1361.9	07.7	339.1	0000.0	146.2	0277.0	08.1	165.4		
09/16	16:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/16	16:56 01	1189.7	09.0	338.6	0000.0	146.0	0259.6	09.2	166.0		
	AVERAGE	1286.3	08.4	338.9	0000.0	146.4	0265.8	08.7	165.6	GOOD HOUR	
09/16	17:11 01	1142.5	09.1	339.4	0000.0	152.3	0995.8	09.6	170.0		
09/16	17:26 01	1135.2	09.3	338.4	0000.0	151.6	0670.2	09.7	168.6		
09/16	17:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/16	17:56 01	1193.7	08.6	343.7	0000.0	151.5	0353.4	09.1	169.9		
	AVERAGE	1157.1	09.0	340.5	0000.0	151.8	0673.1	09.5	169.5	GOOD HOUR	
09/16	18:11 01	1241.6	08.8	339.6	0000.0	148.3	0327.7	09.2	168.7		
09/16	18:26 01	1225.6	09.7	338.3	0000.0	148.6	0228.9	10.1	168.6		
09/16	18:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/16	18:56 01	1148.5	10.0	333.5	0000.0	167.3	0415.8	10.5	185.6		
	AVERAGE	1205.2	09.5	337.1	0000.0	154.7	0324.1	09.9	174.3	GOOD HOUR	
09/16	19:11 01	1212.3	09.7	333.3	0000.0	153.5	0241.8	10.2	178.7		
09/16	19:26 01	1325.3	09.1	334.2	0000.0	151.7	0228.4	09.7	173.4		
09/16	19:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/16	19:56 01	1532.2	08.1	336.0	0000.0	151.2	0265.1	08.3	170.7		
	AVERAGE	1356.6	09.0	334.5	0000.0	152.1	0245.1	09.4	174.3	GOOD HOUR	
09/16	20:11 01	1451.7	08.7	336.6	0000.0	151.8	0354.2	09.2	170.0		
09/16	20:26 01	1592.0	08.4	338.4	0000.0	154.8	0345.0	08.7	170.8		
09/16	20:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/16	20:56 01	1528.8	08.6	339.7	0000.0	152.5	0312.4	09.0	170.2		
	AVERAGE	1524.2	08.6	338.2	0000.0	153.0	0337.2	09.0	170.3	GOOD HOUR	

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3/8"
EPA Form 2150-4 (4-80)
(PREVIOUSLY CIN, EPA FORM 219)
PAGE NUMBER
A-105
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/16	21:11 01	1506.2	08.6	340.2	0000.0	152.7	0297.5	09.0	171.1	
09/16	21:26 01	1487.6	08.9	341.5	0000.0	153.6	0285.6	09.2	171.1	
09/16	21:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	21:56 01	1381.2	09.2	341.5	0000.0	155.5	0382.9	09.6	170.7	
	AVERAGE	1458.3	08.9	341.1	0000.0	153.9	0322.0	09.3	171.0	GOOD HOUR
09/16	22:11 01	1364.6	09.3	340.4	0000.0	154.9	0320.3	09.5	170.1	
09/16	22:26 01	1347.9	09.1	340.4	0000.0	153.8	0319.8	09.5	170.0	
09/16	22:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	22:56 01	1141.1	10.1	339.4	0000.0	154.9	0188.9	10.5	170.0	
	AVERAGE	1284.5	09.5	340.1	0000.0	154.5	0276.3	09.8	170.0	GOOD HOUR
09/16	23:11 01	1156.4	09.5	340.2	0000.0	156.0	0227.7	09.9	170.3	
09/16	23:26 01	1187.7	09.2	339.5	0000.0	153.6	0294.7	09.4	170.1	
09/16	23:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/16	23:56 01	1445.0	08.0	342.5	0000.0	154.2	0427.5	08.2	172.3	
	AVERAGE	1263.0	08.9	340.7	0000.0	154.6	0316.6	09.2	170.9	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:50	11.5E+07	20.1E+05	40.1E-01	00.0E-02	93.0E-02	100	76.8	GOOD HOUR
01:50	11.9E+07	20.5E+05	46.6E-01	00.0E-02	95.3E-02	100	79.5	GOOD HOUR
02:50	11.2E+07	19.2E+05	55.1E-01	00.0E-02	15.1E-01	100	72.6	GOOD HOUR
03:50	10.7E+07	19.0E+05	54.0E-01	00.0E-02	98.7E-02	100	81.7	GOOD HOUR
04:50	10.7E+07	18.9E+05	52.4E-01	00.0E-02	99.1E-02	100	81.1	GOOD HOUR
05:50	11.5E+07	21.6E+05	46.2E-01	00.0E-02	10.4E-01	100	77.6	GOOD HOUR
06:50	10.5E+07	19.1E+05	42.0E-01	00.0E-02	14.4E-01	100	65.8	GOOD HOUR
07:50	11.7E+07	21.2E+05	47.2E-01	00.0E-02	21.5E-01	100	54.5	GOOD HOUR
08:50	11.7E+07	19.9E+05	51.2E-01	00.0E-02	17.2E-01	100	66.4	GOOD HOUR
09:50	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:56	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
11:56	11.7E+07	22.9E+05	37.7E-01	00.0E-02	10.2E-01	100	73.1	GOOD HOUR
12:56	10.7E+07	18.5E+05	41.1E-01	00.0E-02	83.5E-02	100	79.7	GOOD HOUR
13:56	10.3E+07	19.0E+05	39.5E-01	00.0E-02	80.2E-02	100	79.7	GOOD HOUR
14:56	10.7E+07	20.5E+05	38.8E-01	00.0E-02	84.5E-02	100	78.2	GOOD HOUR
15:56	12.7E+07	22.2E+05	33.1E-01	00.0E-02	82.6E-02	100	75.0	GOOD HOUR
16:56	11.2E+07	18.4E+05	35.0E-01	00.0E-02	74.2E-02	100	78.8	GOOD HOUR
17:56	11.0E+07	19.0E+05	33.1E-01	00.0E-02	20.1E-01	100	39.5	GOOD HOUR
18:56	11.0E+07	19.8E+05	36.0E-01	00.0E-02	10.1E-01	100	72.0	GOOD HOUR
19:56	12.2E+07	21.0E+05	38.7E-01	00.0E-02	72.6E-02	100	81.3	GOOD HOUR
20:56	11.7E+07	19.5E+05	42.1E-01	00.0E-02	96.3E-02	100	77.1	GOOD HOUR
21:56	11.0E+07	18.8E+05	41.4E-01	00.0E-02	94.3E-02	100	77.2	GOOD HOUR
22:56	11.5E+07	20.7E+05	38.4E-01	00.0E-02	85.1E-02	100	77.8	GOOD HOUR
23:56	12.2E+07	20.9E+05	35.9E-01	00.0E-02	91.9E-02	100	74.4	GOOD HOUR
		AVERAGE	42.1E-01		11.0E-01		73.6	

GOOD DAY

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
PREVIOUSLY CIN: EPA FORM 2311
PAGE NUMBER
A-106
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 17,1980"

SEPT 17,1980

ENTER FILE NAME
? IN9170
ENTER OUTPUT FILE NAME
? OUT9170
ENTER PROCESS DATA FILE NAME
? P9170
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	08987	00000	BT	NO
0200	09378	00000	BT	NO
0300	09378	00000	BT	NO
0400	09963	00000	BT	NO
0500	09162	00000	BT	NO
0600	09378	00000	BT	NO
0700	09573	00000	BT	NO
0800	09182	00000	BT	NO
0900	09300	00000	BT	NO
1000	07914	00000	BT	NO
1100	07914	00000	BT	NO
1200	08706	00000	BT	NO
1300	08903	00000	BT	NO

1400	10486	00000	BT	NO
1500	09101	00000	BT	NO
1600	08903	00000	BT	NO
1700	08310	00000	BT	NO
1800	07914	00000	BT	NO
1900	10090	00000	BT	NO
2000	08706	00000	BT	NO
2100	10685	00000	BT	NO
2200	09497	00000	BT	NO
2300	10486	00000	BT	NO
2400	10288	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/17	00:11	01	1486.3	07.9	340.7	0000.0	153.6	0410.9	08.1	172.4	
09/17	00:26	01	1445.0	08.6	341.6	0000.0	154.2	0519.2	08.8	174.3	
09/17	00:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	00:56	01	1386.5	08.8	343.0	0000.0	154.0	0374.3	08.8	173.2	
		AVERAGE	1439.3	08.4	341.8	0000.0	153.9	0434.8	08.6	173.3	GOOD HOUR
09/17	01:11	01	1444.4	08.7	343.5	0000.0	153.4	0420.5	08.7	174.1	
09/17	01:26	01	1413.1	08.9	343.2	0000.0	153.0	0444.5	09.2	174.2	
09/17	01:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	01:56	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1428.8	08.8	343.4	0000.0	153.2	0432.5	09.0	174.1	GOOD HOUR
09/17	02:11	01	1305.4	08.7	344.0	0000.0	168.0	0664.2	09.2	197.4	
09/17	02:26	01	1301.4	08.9	346.4	0000.0	160.9	0344.9	09.2	182.1	
09/17	02:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	02:56	01	1353.3	09.0	343.1	0000.0	160.1	0301.0	09.1	174.3	
		AVERAGE	1320.0	08.9	344.5	0000.0	163.0	0436.7	09.2	184.6	GOOD HOUR
09/17	03:11	01	1366.6	09.2	335.8	0000.0	186.1	0921.4	09.4	199.7	
09/17	03:26	01	1366.6	09.1	336.0	0000.0	156.3	0365.8	09.5	177.3	
09/17	03:41	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	03:56	01	1121.2	09.9	338.5	0000.0	155.3	0248.3	10.3	173.0	
		AVERAGE	1284.8	09.4	336.8	0000.0	165.9	0511.8	09.7	183.3	GOOD HOUR
09/17	04:11	01	1139.8	09.6	338.2	0000.0	154.2	0270.8	09.8	170.4	

09/17	04:26 01	1116.5	09.8	337.5	0000.0	152.9	0260.3	10.0	169.3	
09/17	04:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	04:56 01	1198.3	09.1	341.2	0000.0	156.2	0277.8	09.5	171.0	
	AVERAGE	1151.5	09.5	339.0	0000.0	154.4	0269.6	09.8	170.2	GOOD HOUR
09/17	05:11 01	1260.2	09.0	340.3	0000.0	154.3	0270.5	09.4	169.3	
09/17	05:26 01	1228.9	09.4	344.3	0000.0	156.9	0281.2	10.0	171.4	
09/17	05:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	05:56 01	1139.1	09.7	340.5	0000.0	154.9	0243.0	10.6	168.7	
	AVERAGE	1209.4	09.4	341.7	0000.0	155.4	0264.9	10.0	169.8	GOOD HOUR
09/17	06:11 01	1332.0	09.2	340.7	0000.0	155.7	0271.5	09.7	168.9	
09/17	06:26 01	1468.9	08.6	341.5	0000.0	157.0	0308.7	08.9	169.2	
09/17	06:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	06:56 01	1568.1	08.5	343.2	0000.0	156.1	0391.6	08.9	170.1	
	AVERAGE	1456.3	08.8	341.8	0000.0	156.3	0323.9	09.2	169.4	GOOD HOUR
09/17	07:11 01	1619.3	08.5	342.3	0000.0	158.7	0501.1	09.1	174.2	
09/17	07:26 01	1667.8	08.4	342.8	0000.0	156.5	0493.6	08.8	170.5	
09/17	07:41 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	07:56 01	1500.9	09.2	343.0	0000.0	157.7	0490.6	09.6	168.9	
	AVERAGE	1596.0	08.7	342.7	0000.0	157.6	0495.1	09.2	171.2	GOOD HOUR
09/17	08:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	08:15 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	08:30 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	08:45 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/17	09:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	09:15 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	09:30 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	09:45 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/17	10:05 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	10:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	10:35 01	1292.1	11.5	339.1	0000.0	156.9	0353.9	16.6	169.4	
09/17	10:50 01	1173.7	11.7	338.1	0000.0	158.3	0316.1	17.0	168.6	
	AVERAGE	1232.9	11.6	338.6	0000.0	157.6	0335.0	16.8	169.0	GOOD HOUR
09/17	11:05 01	1165.1	11.2	335.7	0000.0	153.1	0322.9	16.4	164.9	
09/17	11:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	11:35 01	1058.7	10.6	337.9	0000.0	154.7	0285.4	15.9	166.4	
09/17	11:50 01	1042.1	10.3	338.6	0000.0	160.4	0298.1	15.7	168.2	
	AVERAGE	1088.6	10.7	337.4	0000.0	156.1	0302.1	16.0	166.5	GOOD HOUR
09/17	12:05 01	0970.9	10.5	336.5	0000.0	156.6	0240.7	15.8	165.9	
09/17	12:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	12:35 01	0926.3	10.5	335.5	0000.0	155.4	0238.1	15.7	167.5	

09/17	12:50	01	0913.0	10.6	335.5	0000.0	155.7	0235.5	16.0	166.6		
		AVERAGE	0936.7	10.5	335.8	0000.0	155.9	0238.1	15.8	166.7	GOOD	HOUR
09/17	13:05	01	0923.0	10.2	337.3	0000.0	156.6	0251.6	15.4	168.6		
09/17	13:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/17	13:35	01	0988.9	09.7	341.1	0000.0	160.6	0279.2	15.1	170.0		
09/17	13:50	01	1048.0	09.3	339.5	0000.0	159.7	0318.4	14.5	169.6		
		AVERAGE	0986.6	09.7	339.3	0000.0	159.0	0283.1	15.0	169.4	GOOD	HOUR
09/17	14:05	01	1027.4	09.5	339.6	0000.0	159.5	0346.5	13.6	172.8		
09/17	14:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/17	14:35	01	1077.3	09.3	339.1	0000.0	158.0	0379.6	13.1	173.5		
09/17	14:50	01	1097.3	09.2	339.4	0000.0	158.5	0417.1	13.3	174.7		
		AVERAGE	1067.3	09.3	339.4	0000.0	158.7	0381.1	13.3	173.7	GOOD	HOUR
09/17	15:05	01	1090.6	09.3	338.0	0000.0	154.3	0422.9	13.1	174.5		
09/17	15:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/17	15:35	01	1781.5	10.6	337.6	0000.0	151.8	0356.3	14.4	171.7		
09/17	15:50	01	1594.7	10.6	338.9	0000.0	152.9	0318.9	14.6	173.6		
		AVERAGE	1488.9	10.2	338.2	0000.0	153.0	0366.0	14.0	173.3	GOOD	HOUR
09/17	16:05	01	1008.1	11.0	340.1	0000.0	156.2	0323.9	14.4	176.3		
09/17	16:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/17	16:35	01	1087.3	10.5	340.4	0000.0	156.6	0358.7	13.5	176.1		
09/17	16:50	01	1062.0	10.6	340.4	0000.0	155.3	0338.6	14.0	176.5		
		AVERAGE	1052.5	10.7	340.3	0000.0	156.0	0340.4	14.0	176.3	GOOD	HOUR
09/17	17:05	01	1007.5	11.1	338.8	0000.0	153.9	0320.4	14.4	175.9		
09/17	17:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/17	17:35	01	0794.0	12.4	342.4	0000.0	155.9	0233.5	15.8	177.5		
09/17	17:50	01	0763.4	12.4	344.3	0000.0	156.8	0210.5	16.1	177.9		
		AVERAGE	0855.0	12.0	341.8	0000.0	155.5	0254.8	15.4	177.1	GOOD	HOUR
09/17	18:05	01	0810.6	11.6	340.4	0000.0	154.6	0239.5	15.2	176.9		
09/17	18:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/17	18:35	01	0758.1	11.9	338.1	0000.0	153.9	0229.2	15.1	176.7		
09/17	18:50	01	0908.4	10.0	336.8	0000.0	185.1	0762.2	13.7	194.2		
		AVERAGE	0825.7	11.2	338.4	0000.0	164.5	0410.3	14.7	182.6	GOOD	HOUR
09/17	19:05	01	1026.7	09.4	332.9	0000.0	161.5	0495.8	12.2	187.7		
09/17	19:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/17	19:35	01	1021.4	10.3	337.6	0000.0	158.1	0433.7	13.1	181.2		
09/17	19:50	01	1048.0	10.7	338.4	0000.0	157.9	0425.2	13.6	179.7		
		AVERAGE	1032.0	10.1	336.3	0000.0	159.2	0451.6	13.0	182.9	GOOD	HOUR
09/17	20:05	01	0927.0	11.[illegible]	336.5	0000.0	156.6	0292.6	15.0	176.9		
09/17	20:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/17	20:35	01	0920.4	10.5	337.2	0000.0	154.4	0208.4	13.4	175.9		
09/17	20:50	01	0912.4	10.3	340.2	0000.0	154.9	0209.7	14.0	176.2		
		AVERAGE	0919.9	10.9	338.0	0000.0	155.3	0236.9	14.1	176.3	GOOD	HOUR

09/17	21:05	01	1060.0	09.5	339.8	0000.0	156.3	0150.2	12.6	176.8	
09/17	21:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	21:35	01	1095.9	10.1	342.3	0000.0	156.8	0215.5	13.0	176.0	
09/17	21:50	01	1107.9	10.3	341.0	0000.0	154.9	0186.2	13.6	175.3	
		AVERAGE	1087.9	10.0	341.0	0000.0	156.0	0184.0	13.1	176.0	GOOD HOUR
09/17	22:05	01	1087.3	10.7	339.2	0000.0	153.2	0170.4	14.1	172.8	
09/17	22:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	22:35	01	1165.7	09.1	342.1	0000.0	152.9	0194.3	12.6	173.3	
09/17	22:50	01	1202.3	09.4	345.0	0000.0	154.2	0226.9	12.6	174.9	
		AVERAGE	1151.8	09.7	342.1	0000.0	153.4	0197.2	13.1	173.7	GOOD HOUR
09/17	23:05	01	1218.3	09.6	342.4	0000.0	152.9	0213.6	12.5	173.1	
09/17	23:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/17	23:35	01	1155.1	09.3	342.3	0000.0	153.6	0184.9	12.9	173.5	
09/17	23:50	01	1223.6	09.1	343.2	0000.0	152.9	0193.5	12.9	173.5	
		AVERAGE	1199.0	09.3	342.6	0000.0	153.1	0197.3	12.8	173.4	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:56	11.2E+07	18.5E+05	39.3E-01	00.0E-02	12.0E-01	100	69.5	GOOD HOUR
01:56	11.7E+07	19.9E+05	40.2E-01	00.0E-02	12.3E-01	100	69.3	GOOD HOUR
02:56	11.7E+07	20.0E+05	37.4E-01	00.0E-02	12.7E-01	100	66.1	GOOD HOUR
03:56	12.5E+07	22.2E+05	38.1E-01	00.0E-02	15.6E-01	100	59.0	GOOD HOUR
04:56	11.5E+07	20.6E+05	34.4E-01	00.0E-02	82.5E-02	100	76.0	GOOD HOUR
05:56	11.7E+07	20.9E+05	35.7E-01	00.0E-02	82.8E-02	100	76.8	GOOD HOUR
06:56	12.0E+07	20.2E+05	40.9E-01	00.0E-02	94.1E-02	100	77.0	GOOD HOUR
07:56	11.5E+07	19.3E+05	44.6E-01	00.0E-02	14.4E-01	100	67.7	GOOD HOUR
08:45	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
09:45	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:50	98.9E+06	21.8E+05	45.2E-01	00.0E-02	27.8E-01	100	38.4	GOOD HOUR
11:50	10.9E+07	21.9E+05	36.4E-01	00.0E-02	21.0E-01	100	42.2	GOOD HOUR
12:50	11.1E+07	22.0E+05	30.8E-01	00.0E-02	16.0E-01	100	48.0	GOOD HOUR
13:50	13.1E+07	24.1E+05	30.1E-01	00.0E-02	16.3E-01	100	45.7	GOOD HOUR
14:50	11.4E+07	20.2E+05	31.4E-01	00.0E-02	17.2E-01	100	45.4	GOOD HOUR
15:50	11.1E+07	21.3E+05	47.3E-01	00.0E-02	18.2E-01	100	61.6	GOOD HOUR
16:50	10.4E+07	20.9E+05	35.2E-01	00.0E-02	16.7E-01	100	52.4	GOOD HOUR
17:50	98.9E+06	22.7E+05	32.6E-01	00.0E-02	15.9E-01	100	51.3	GOOD HOUR
18:50	12.6E+07	26.6E+05	28.9E-01	00.0E-02	22.4E-01	100	22.4	GOOD HOUR
19:50	10.9E+07	20.7E+05	32.7E-01	00.0E-02	19.4E-01	100	40.6	GOOD HOUR
20:50	13.4E+07	27.4E+05	31.3E-01	00.0E-02	11.9E-01	100	61.9	GOOD HOUR
21:50	11.9E+07	22.3E+05	33.9E-01	00.0E-02	80.0E-02	100	76.4	GOOD HOUR
22:50	13.1E+07	24.1E+05	35.1E-01	00.0E-02	86.1E-02	100	75.5	GOOD HOUR
23:50	12.9E+07	22.8E+05	35.3E-01	00.0E-02	82.7E-02	100	76.6	GOOD HOUR
		AVERAGE	36.2E-01		14.6E-01		59.1	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT 24,1980"

                                                    SEPT 24,1980


ENTER FILE NAME
 ? IN9240
ENTER OUTPUT FILE NAME
 ? OUT9240
ENTER PROCESS DATA FILE NAME
 ? P9240
ENTER HEAT INPUT CONTENT
 ? 12500
   TIME    COAL RATE  STM RATE   COAL TYPE  UPSET CON
             LB/HR      LB/HR

   0100      09921      00000       BT          NO
   0200      08610      00000       BT          NO
   0300      08423      00000       BT          NO
   0400      08798      00000       BT          NO
   0500      08423      00000       BT          NO
   0600      08049      00000       BT          NO
   0700      08610      00000       BT          NO
   0800      08610      00000       BT          NO
   0900      08983      00000       BT          NO
   1000      11228      00000       BT          NO
   1100      13100      00000       BT          NO
   1200      10480      00000       BT          NO
   1300      08795      00000       BT          NO
```

1400	08983	00000	BT	NO
1500	08983	00000	BT	NO
1600	08983	00000	BT	NO
1700	08234	00000	BT	NO
1800	08795	00000	BT	NO
1900	09357	00000	BT	NO
2000	08795	00000	BT	NO
2100	08983	00000	BT	NO
2200	08608	00000	BT	NO
2300	07299	00000	BT	NO
2400	08608	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/24	00:01	01	1500.2	07.2	339.1	0000.0	151.2	0566.6	09.6	165.7	
09/24	00:16	01	1433.7	07.8	338.0	0000.0	155.6	0661.3	10.3	170.8	
09/24	00:31	01	1339.3	08.1	337.7	0000.0	155.9	0730.6	10.9	171.2	
09/24	00:46	01	1339.3	08.6	338.2	0000.0	155.2	0758.6	11.1	171.6	
		AVERAGE	1403.1	07.9	338.3	0000.0	154.5	0679.3	10.5	169.8	GOOD HOUR
09/24	01:01	01	1249.5	08.9	337.7	0000.0	153.6	0594.8	11.2	169.4	
09/24	01:16	01	1316.7	08.4	339.1	0000.0	153.6	0452.5	09.9	169.1	
09/24	01:31	01	1336.7	08.1	340.0	0000.0	153.5	0352.7	10.6	168.5	
09/24	01:46	01	1346.6	07.8	342.9	0000.0	153.3	0303.3	10.5	169.2	
		AVERAGE	1312.4	08.3	339.9	0000.0	153.5	0425.8	10.6	169.1	GOOD HOUR
09/24	02:01	01	1360.6	07.8	343.3	0000.0	152.9	0270.5	10.6	170.0	
09/24	02:16	01	1482.3	07.0	340.7	0000.0	152.2	0276.6	09.5	170.3	
09/24	02:31	01	1598.7	07.0	340.0	0000.0	153.3	0754.2	09.3	171.1	
09/24	02:46	01	1613.9	06.8	340.1	0000.0	153.5	0424.1	09.6	170.3	
		AVERAGE	1513.9	07.2	341.0	0000.0	153.0	0431.4	09.8	170.4	GOOD HOUR
09/24	03:01	01	1609.3	07.0	340.5	0000.0	154.6	0512.4	09.4	171.3	
09/24	03:16	01	1596.0	06.6	340.6	0000.0	162.2	0787.3	09.1	178.9	
09/24	03:31	01	1607.9	06.6	339.6	0000.0	160.2	0659.9	09.3	176.7	
09/24	03:46	01	1590.0	06.8	340.2	0000.0	159.0	0553.3	09.7	174.5	
		AVERAGE	1600.8	06.8	340.2	0000.0	159.0	0628.2	09.4	175.4	GOOD HOUR
09/24	04:01	01	1546.1	07.1	340.3	0000.0	189.2	0577.9	10.1	191.7	

BEGIN LAST LINE OF TEXT
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN. EPA FORM 287)
3/8"
PAGE NUMBER
A-113
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/24	04:16	01	1491.6	07.7	336.8	0000.0	228.8	0866.8	10.3	246.7	
09/24	04:31	01	1469.7	07.6	337.0	0000.0	166.2	0663.4	10.1	197.4	
09/24	04:46	01	1482.3	07.4	338.6	0000.0	160.4	0514.9	10.1	184.6	
		AVERAGE	1497.4	07.5	338.2	0000.0	186.2	0655.7	10.1	205.1	GOOD HOUR
09/24	05:01	01	1457.0	07.5	338.5	0000.0	158.1	0414.6	10.2	179.0	
09/24	05:16	01	1433.7	07.5	340.6	0000.0	158.4	0372.9	10.6	177.4	
09/24	05:31	01	1345.9	08.3	342.3	0000.0	159.3	0341.7	11.3	176.2	
09/24	05:46	01	1279.5	08.4	343.2	0000.0	158.3	0311.4	11.3	174.9	
		AVERAGE	1379.0	07.9	341.2	0000.0	158.5	0360.2	10.8	176.9	GOOD HOUR
09/24	06:01	01	1318.0	08.8	342.6	0000.0	157.7	0288.3	10.7	173.7	
09/24	06:16	01	1377.9	08.1	341.9	0000.0	156.3	0287.5	10.1	172.8	
09/24	06:31	01	1395.2	07.5	341.3	0000.0	157.0	0286.2	09.9	171.3	
09/24	06:46	01	1415.8	07.4	340.5	0000.0	157.5	0297.4	10.1	172.0	
		AVERAGE	1376.7	08.0	341.6	0000.0	157.1	0289.9	10.2	172.5	GOOD HOUR
09/24	07:01	01	1433.1	07.7	340.3	0000.0	156.1	0302.0	10.2	171.7	
09/24	07:16	01	1494.3	07.5	341.3	0000.0	157.5	0329.0	09.9	171.4	
09/24	07:31	01	1506.9	07.5	341.0	0000.0	157.0	0322.5	09.9	171.3	
09/24	07:46	01	1495.6	07.8	340.6	0000.0	154.9	0330.6	10.3	170.3	
		AVERAGE	1482.5	07.6	340.8	0000.0	156.4	0321.0	10.1	171.2	GOOD HOUR
09/24	08:01	01	1454.4	08.1	341.0	0000.0	151.6	0309.9	10.3	168.0	
09/24	08:16	01	1458.3	08.2	340.5	0000.0	152.0	0287.5	10.5	168.0	
09/24	08:31	01	1471.6	07.8	338.2	0000.0	150.4	0275.0	09.8	165.9	
09/24	08:46	01	1523.5	07.1	342.2	0000.0	153.4	0273.4	09.5	168.2	
		AVERAGE	1477.0	07.8	340.5	0000.0	151.9	0286.5	10.0	167.5	GOOD HOUR
09/24	09:01	01	1514.8	06.8	342.0	0000.0	153.3	0261.4	09.7	167.0	
09/24	09:16	01	1501.6	07.1	344.1	0000.0	153.9	0251.9	10.4	168.3	
09/24	09:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	09:46	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1508.2	07.0	343.1	0000.0	153.6	0256.7	10.1	167.7	GOOD HOUR
09/24	10:01	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	10:16	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	10:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	10:46	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/24	11:01	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	11:16	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	11:31	01	2248.4	19.4	354.2	0000.0	153.6	0688.7	06.1	170.7	
09/24	11:46	01	2212.5	06.8	350.4	0000.0	149.3	0631.5	07.3	166.7	
		AVERAGE	2230.4	13.1	352.3	0000.0	151.5	0660.1	06.7	168.7	GOOD HOUR
09/24	12:04	01	1840.7	08.7	348.7	0000.0	147.4	0504.1	08.7	165.2	
09/24	12:19	01	1600.7	10.7	347.7	0000.0	151.3	0343.3	10.4	169.9	
09/24	12:34	01	1755.6	09.3	347.7	0000.0	149.9	0358.6	09.5	170.1	

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3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN, EPA FORM 231)
PAGE NUMBER
A-114
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/24	12:49 01	1792.8	09.4	344.8	0000.0	146.5	0338.5	11.4	164.9		
	AVERAGE	1747.5	09.5	347.2	0000.0	148.8	0386.1	10.0	167.5	GOOD HOUR	
09/24	13:04 01	1841.4	09.9	344.1	0000.0	150.1	0376.9	09.8	168.4		
09/24	13:19 01	1762.9	10.1	344.1	0000.0	149.4	0413.9	10.0	168.5		
09/24	13:34 01	1656.5	10.5	341.4	0000.0	161.5	0632.5	10.5	187.0		
09/24	13:49 01	1632.6	10.2	341.4	0000.0	154.2	0453.1	10.2	174.2		
	AVERAGE	1723.4	10.2	342.8	0000.0	153.8	0469.1	10.1	174.5	GOOD HOUR	
09/24	14:04 01	1672.5	10.0	340.2	0000.0	152.0	0414.2	10.0	169.4		
09/24	14:05 01	1625.3	09.6	339.1	0000.0	150.0	0372.7	09.5	169.7		
09/24	14:49 01	1564.7	09.9	339.7	0000.0	150.6	0346.3	09.4	170.1		
09/24	15:00 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1620.8	09.8	339.7	0000.0	150.9	0377.7	09.6	169.7	GOOD HOUR	
09/24	15:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/24	15:19 01	1401.8	10.0	338.6	0000.0	150.1	0266.9	09.6	169.5		
09/24	15:34 01	1437.1	10.0	339.0	0000.0	150.1	0266.7	09.5	168.9		
09/24	15:49 01	1431.1	10.1	338.8	0000.0	149.7	0269.9	09.7	168.9		
	AVERAGE	1423.3	10.0	338.8	0000.0	150.0	0267.8	09.6	169.1	GOOD HOUR	
09/24	16:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/24	16:19 01	1565.4	09.7	340.4	0000.0	150.6	0336.5	09.2	170.1		
09/24	16:34 01	1595.3	10.0	340.4	0000.0	150.0	0266.5	09.5	169.7		
09/24	16:49 01	1544.1	10.5	340.1	0000.0	149.8	0311.7	09.9	169.2		
	AVERAGE	1568.3	10.1	340.3	0000.0	150.1	0304.9	09.5	169.7	GOOD HOUR	
09/24	17:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/24	17:19 01	1422.4	10.8	340.4	0000.0	148.6	0317.8	10.3	169.3		
09/24	17:34 01	1371.9	11.4	340.6	0000.0	150.4	0307.3	10.9	169.6		
09/24	17:49 01	1391.2	11.5	343.3	0000.0	152.0	0322.3	11.1	170.9		
	AVERAGE	1395.2	11.2	341.4	0000.0	150.3	0315.8	10.8	169.9	GOOD HOUR	
09/24	18:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/24	18:19 01	1443.1	10.1	344.4	0000.0	151.8	0313.9	09.7	169.0		
09/24	18:34 01	1598.7	09.7	342.3	0000.0	151.6	0334.8	09.4	168.7		
09/24	18:49 01	1776.9	09.1	343.0	0000.0	151.5	0364.0	08.8	169.4		
	AVERAGE	1606.2	09.6	343.2	0000.0	151.6	0337.6	09.3	169.0	GOOD HOUR	
09/24	19:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/24	19:19 01	1792.2	09.2	344.3	0000.0	152.9	0337.0	09.2	170.1		
09/24	19:34 01	1830.7	09.3	340.5	0000.0	180.0	0669.7	09.3	191.2		
09/24	19:49 01	1838.1	09.3	340.4	0000.0	162.6	0452.1	09.7	188.6		
	AVERAGE	1820.3	09.3	341.7	0000.0	165.2	0486.3	09.4	183.3	GOOD HOUR	
09/24	20:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/24	20:19 01	1655.2	10.0	340.8	0000.0	155.4	0328.2	10.2	178.7		
09/24	20:34 01	1751.6	09.5	340.5	0000.0	154.8	0357.5	09.8	177.4		
09/24	20:49 01	1764.2	09.5	340.6	0000.0	154.2	0328.9	09.8	175.3		
	AVERAGE	1723.7	09.7	340.6	0000.0	154.8	0338.2	09.9	177.1	GOOD HOUR	

BEGIN LAST LINE OF TEXT
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A-115
PAGE NUMBER
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 227)
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD; BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/24	21:04	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	21:19	01	1748.3	09.1	341.9	0000.0	153.0	0352.9	09.7	173.4	
09/24	21:34	01	1804.8	08.9	314.5	0000.0	152.5	0336.6	09.5	171.3	
09/24	21:49	01	1675.8	10.1	343.5	0000.0	154.3	0348.9	10.4	172.8	
		AVERAGE	1743.0	09.4	333.3	0000.0	153.3	0346.1	09.9	172.5	GOOD HOUR
09/24	22:04	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	22:19	01	1697.1	09.5	343.8	0000.0	152.4	0356.2	10.0	172.0	
09/24	22:34	01	1593.3	10.0	341.9	0000.0	152.6	0311.1	10.4	170.6	
09/24	22:49	01	1566.7	10.3	342.1	0000.0	152.1	0319.9	10.6	170.7	
		AVERAGE	1619.0	09.9	342.6	0000.0	152.4	0329.1	10.3	171.1	GOOD HOUR
09/24	23:04	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/24	23:19	01	1324.0	11.2	341.3	0000.0	152.2	0317.7	11.4	168.7	
09/24	23:34	01	1242.2	11.9	340.3	0000.0	150.8	0312.6	11.8	168.7	
09/24	23:49	01	1390.5	10.6	340.9	0000.0	151.4	0345.9	10.9	168.9	
		AVERAGE	1318.9	11.2	340.8	0000.0	151.5	0325.4	11.4	168.8	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:46	12.4E+07	19.6E+05	36.8E-01	00.0E-02	22.2E-01	100	39.7	GOOD HOUR
01:46	10.8E+07	17.5E+05	35.5E-01	00.0E-02	14.0E-01	100	60.5	GOOD HOUR
02:46	10.5E+07	15.7E+05	37.5E-01	00.0E-02	13.2E-01	100	64.9	GOOD HOUR
03:46	11.0E+07	16.0E+05	38.5E-01	00.0E-02	18.6E-01	100	51.8	GOOD HOUR
04:46	10.5E+07	16.1E+05	37.9E-01	00.0E-02	20.8E-01	100	45.2	GOOD HOUR
05:46	10.1E+07	15.9E+05	36.2E-01	00.0E-02	12.2E-01	100	66.3	GOOD HOUR
06:46	10.8E+07	17.1E+05	36.2E-01	00.0E-02	92.3E-02	100	74.5	GOOD HOUR
07:46	10.8E+07	16.6E+05	38.0E-01	00.0E-02	10.1E-01	100	73.4	GOOD HOUR
08:46	11.2E+07	17.6E+05	38.4E-01	00.0E-02	89.7E-02	100	76.6	GOOD HOUR
09:46	14.0E+07	20.6E+05	36.8E-01	00.0E-02	80.6E-02	100	78.1	GOOD HOUR
10:46	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
11:46	13.1E+07	34.5E+05	97.4E-01	00.0E-02	15.8E-01	100	83.7	GOOD HOUR
12:49	11.0E+07	19.8E+05	52.3E-01	00.0E-02	12.1E-01	100	76.9	GOOD HOUR
13:49	11.2E+07	21.5E+05	54.7E-01	00.0E-02	14.8E-01	100	72.9	GOOD HOUR
15:00	11.2E+07	20.8E+05	49.9E-01	00.0E-02	11.4E-01	100	77.1	GOOD HOUR
15:49	11.2E+07	21.2E+05	44.6E-01	00.0E-02	80.8E-02	100	81.9	GOOD HOUR
16:49	10.3E+07	19.5E+05	49.3E-01	00.0E-02	91.4E-02	100	81.5	GOOD HOUR
17:49	11.0E+07	23.3E+05	49.2E-01	00.0E-02	10.6E-01	100	78.4	GOOD HOUR
18:49	11.7E+07	21.3E+05	48.6E-01	00.0E-02	99.1E-02	100	79.6	GOOD HOUR
19:49	11.0E+07	19.4E+05	53.3E-01	00.0E-02	14.4E-01	100	73.0	GOOD HOUR
20:49	11.2E+07	20.5E+05	52.3E-01	00.0E-02	10.5E-01	100	79.9	GOOD HOUR
21:49	10.8E+07	19.1E+05	51.5E-01	00.0E-02	10.7E-01	100	79.2	GOOD HOUR
22:49	91.2E+06	17.1E+05	50.3E-01	00.0E-02	10.6E-01	100	78.9	GOOD HOUR
23:49	10.8E+07	22.8E+05	46.5E-01	00.0E-02	11.6E-01	100	75.0	GOOD HOUR
		AVERAGE	46.6E-01		12.5E-01		71.7	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT 25,1980"

SEPT 25,1980

ENTER FILE NAME
 ? IN9250
ENTER OUTPUT FILE NAME
 ? OUT925-_0
ENTER PROCESS DATA FILE NAME
 ? P9250
ENTER HEAT INPUT CONTENT
 ? 12500
```

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	08795	00000	BT	NO
0200	08047	00000	BT	NO
0300	08422	00000	BT	NO
0400	09918	00000	BT	NO
0500	09944	00000	BT	NO
0600	08608	00000	BT	NO
0700	08234	00000	BT	NO
0800	08608	00000	BT	NO
0900	08177	00000	BT	NO
1000	08363	00000	BT	NO
1100	09106	00000	BT	NO
1200	10035	00000	BT	NO
1300	09664	00000	BT	NO

1400	09106	00000	BT	NO
1500	10035	00000	BT	NO
1600	09850	00000	BT	NO
1700	09478	00000	BT	NO
1800	09292	00000	BT	NO
1900	10035	00000	BT	NO
2000	09664	00000	BT	NO
2100	09106	00000	BT	NO
2200	09664	00000	BT	NO
2300	09106	00000	BT	NO
2400	08920	00000	BT	NO

DATE	TIME	CD	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/25	00:04	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/25	00:19	01	1497.6	10.2	341.8	0000.0	151.2	0321.2	10.2	168.8	
09/25	00:34	01	1752.9	09.1	342.2	0000.0	150.6	0371.2	09.4	168.4	
09/25	00:49	01	1999.0	08.4	343.2	0000.0	152.6	0366.7	08.6	170.1	
		AVERAGE	1749.8	09.2	342.4	0000.0	151.5	0353.0	09.4	169.1	GOOD HOUR
09/25	01:04	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/25	01:19	01	2006.9	08.2	343.6	0000.0	153.6	0337.1	08.7	170.8	
09/25	01:34	01	2028.3	08.3	343.2	0000.0	151.8	0317.0	08.9	170.4	
09/25	01:49	01	1921.2	09.4	344.1	0000.0	153.0	0192.1	10.0	171.2	
		AVERAGE	1985.5	08.6	343.6	0000.0	152.8	0282.1	09.2	170.8	GOOD HOUR
09/25	02:04	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/25	02:19	01	1765.6	09.8	344.3	0000.0	150.8	0330.4	10.1	170.1	
09/25	02:34	01	1798.2	09.8	344.7	0000.0	151.6	0344.1	10.1	170.1	
09/25	02:49	01	1445.0	10.5	343.2	0000.0	150.5	0290.3	10.9	170.4	
		AVERAGE	1669.6	10.0	344.1	0000.0	151.0	0321.6	10.4	170.2	GOOD HOUR
09/25	03:04	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/25	03:19	01	1445.0	10.1	341.7	0000.0	152.5	0337.4	10.2	169.9	
09/25	03:34	01	1332.7	09.9	342.6	0000.0	153.9	0344.2	10.1	170.7	
09/25	03:49	01	1387.9	09.8	342.5	0000.0	154.0	0341.3	10.1	170.1	
		AVERAGE	1388.5	09.9	342.3	0000.0	153.5	0341.0	10.1	170.2	GOOD HOUR
09/25	04:04	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

09/25	04:19 01	1435.1	09.5	343.3	0000.0	152.5	0332.6	09.8	168.7		
09/25	04:34 01	1483.0	09.3	343.7	0000.0	153.6	0337.6	09.7	168.9		
09/25	04:49 01	1505.6	09.7	342.9	0000.0	153.0	0320.1	09.9	169.5		
	AVERAGE	1474.6	09.5	343.3	0000.0	153.0	0330.1	09.8	169.0	GOOD HOUR	
09/25	05:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/25	05:19 01	1455.7	10.4	342.7	0000.0	174.4	0413.5	10.8	189.8		
09/25	05:34 01	1242.9	10.2	344.2	0000.0	177.5	0556.7	10.5	198.0		
09/25	05:49 01	1434.4	10.0	340.0	0000.0	176.1	0572.1	10.2	198.0		
	AVERAGE	1377.7	10.2	342.3	0000.0	176.0	0514.1	10.5	195.3	GOOD HOUR	
09/25	06:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/25	06:19 01	1302.7	10.9	338.4	0000.0	156.3	0301.0	11.1	176.8		
09/25	06:34 01	1412.5	10.3	339.5	0000.0	155.9	0347.5	10.5	174.2		
09/25	06:49 01	1380.5	10.5	339.6	0000.0	155.5	0325.2	10.5	173.5		
	AVERAGE	1365.2	10.6	339.2	0000.0	155.9	0324.6	10.7	174.8	GOOD HOUR	
09/25	07:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/25	07:19 01	1313.7	09.8	339.9	0000.0	154.9	0341.1	09.9	172.8		
09/25	07:34 01	1373.2	09.7	339.5	0000.0	153.8	0287.2	09.9	170.3		
09/25	07:49 01	1431.7	09.8	340.4	0000.0	152.1	0329.9	10.1	170.3		
	AVERAGE	1372.9	09.8	339.9	0000.0	153.6	0319.4	10.0	171.1	GOOD HOUR	
09/25	08:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/25	08:19 01	1422.4	09.5	342.2	0000.0	154.0	0319.8	09.8	170.0		
09/25	08:34 01	1438.4	10.0	340.8	0000.0	152.2	0322.5	10.2	168.8		
09/25	08:49 01	1453.0	09.8	311.6	0000.0	152.2	0314.5	10.0	168.0		
	AVERAGE	1437.9	09.8	331.5	0000.0	152.8	0318.9	10.0	168.9	GOOD HOUR	
09/25	09:04 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/25	09:19 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/25	09:34 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/25	09:49 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/25	10:12 01	1478.9	09.8	342.3	0000.0	162.4	0430.9	10.3	192.4		
09/25	10:17 01	1453.7	09.8	342.8	0000.0	161.1	0584.3	10.3	189.0		
09/25	10:32 01	1298.1	10.7	341.3	0000.0	154.6	0272.5	11.0	178.2		
09/25	10:47 01	1359.3	10.2	342.1	0000.0	154.2	0286.5	10.3	174.7		
	AVERAGE	1397.5	10.1	342.1	0000.0	158.1	0393.6	10.5	183.6	GOOD HOUR	
09/25	11:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/25	11:17 01	1520.9	09.1	338.2	0000.0	157.0	0201.1	09.1	177.1		
09/25	11:32 01	1450.4	09.4	337.7	0000.0	153.4	0204.3	09.5	173.5		
09/25	11:47 01	1540.1	09.5	338.0	0000.0	151.5	0231.0	09.5	171.6		
	AVERAGE	1503.8	09.3	338.0	0000.0	154.0	0212.1	09.4	174.1	GOOD HOUR	
09/25	12:02 01	1675.1	08.8	338.7	0000.0	152.5	0249.2	08.8	170.3		
09/25	12:17 01	1870.0	08.1	339.6	0000.0	151.4	0281.2	08.2	170.1		
09/25	12:32 01	1869.3	08.6	340.1	0000.0	153.3	0274.1	08.7	170.0		

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EPA Form 2250-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 297)
PAGE NUMBER
A-119
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
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TOP OF IMAGE AREA

09/25	12:47 01		1754.3	09.0	341.7	0000.0	152.7	0263.6	09.0	170.7	
		AVERAGE	1792.2	08.6	340.0	0000.0	152.5	0267.0	08.7	170.3	GOOD HOUR
09/25	13:02 01		1784.2	08.8	341.5	0000.0	152.7	0264.8	08.9	170.2	
09/25	13:17 01		1763.6	08.7	341.4	0000.0	151.4	0257.4	08.9	169.6	
09/25	13:32 01		1699.7	08.9	341.0	0000.0	150.6	0262.1	09.2	169.6	
09/25	13:47 01		1695.8	09.0	341.2	0000.0	151.5	0271.2	09.4	168.7	
		AVERAGE	1735.8	08.9	341.3	0000.0	151.6	0263.9	09.1	169.5	GOOD HOUR
09/25	14:02 01		1626.6	09.0	341.3	0000.0	152.9	0267.6	09.3	169.1	
09/25	14:17 01		1671.1	08.7	341.3	0000.0	151.3	0288.1	08.8	168.4	
09/25	14:32 01		1516.9	09.5	341.6	0000.0	151.5	0294.6	09.7	170.1	
09/25	14:47 01		1612.0	08.9	341.3	0000.0	151.2	0281.0	09.2	168.7	
		AVERAGE	1606.7	09.0	341.4	0000.0	151.7	0282.8	09.3	169.1	GOOD HOUR
09/25	15:02 01		1652.5	08.6	341.5	0000.0	152.0	0293.5	08.9	168.9	
09/25	15:17 01		1664.5	08.4	341.5	0000.0	150.8	0277.0	08.4	169.1	
09/25	15:32 01		1641.2	08.1	341.3	0000.0	152.2	0268.9	08.2	168.5	
09/25	15:47 01		1622.6	08.4	342.0	0000.0	151.5	0271.7	08.4	168.5	
		AVERAGE	1645.2	08.4	341.6	0000.0	151.6	0277.8	08.5	168.8	GOOD HOUR
09/25	16:02 01		1621.3	08.5	342.3	0000.0	152.4	0272.5	08.2	168.4	
09/25	16:17 01		1600.7	08.7	342.1	0000.0	152.6	0256.4	08.5	168.0	
09/25	16:32 01		1587.4	09.0	342.5	0000.0	158.2	0267.3	08.7	168.9	
09/25	16:47 01		1574.7	09.0	342.3	0000.0	188.8	0671.7	08.7	197.7	
		AVERAGE	1596.0	08.8	342.3	0000.0	163.0	0367.0	08.5	175.8	GOOD HOUR
09/25	17:02 01		1613.3	09.0	338.5	0000.0	175.6	0653.4	08.8	193.9	
09/25	17:17 01		1596.7	09.1	338.6	0000.0	211.1	0951.9	09.8	212.9	
09/25	17:32 01		1548.1	09.4	339.5	0000.0	197.6	0879.1	09.1	218.7	
09/25	17:47 01		1501.6	07.8	336.4	0000.0	185.8	0941.5	08.8	215.9	
		AVERAGE	1564.9	08.8	338.3	0000.0	192.5	0856.5	08.9	210.4	GOOD HOUR
09/25	18:02 01		1490.3	07.8	336.8	0000.0	178.0	0981.3	08.8	214.6	
09/25	18:17 01		1316.0	08.2	336.9	0000.0	160.2	0437.7	09.2	188.1	
09/25	18:32 01		1298.7	08.4	337.4	0000.0	157.0	0323.7	09.6	178.2	
09/25	18:47 01		1437.7	07.6	338.9	0000.0	154.4	0320.8	08.5	174.1	
		AVERAGE	1385.7	08.0	337.5	0000.0	162.4	0515.9	09.0	188.8	GOOD HOUR
09/25	19:02 01		1451.7	07.8	340.4	0000.0	154.5	0301.9	08.8	172.6	
09/25	19:17 01		1416.5	07.6	340.9	0000.0	153.8	0265.7	08.1	170.7	
09/25	19:32 01		1632.6	07.1	342.1	0000.0	154.8	0277.2	08.0	170.8	
09/25	19:47 01		1671.8	07.1	342.3	0000.0	156.1	0261.6	07.9	171.5	
		AVERAGE	1543.2	07.4	341.4	0000.0	154.8	0276.6	08.2	171.4	GOOD HOUR
09/25	20:02 01		1625.9	07.8	341.3	0000.0	156.2	0251.1	08.4	171.0	
09/25	20:17 01		1296.1	08.7	340.4	0000.0	156.2	0197.5	09.8	170.5	
09/25	20:32 01		1480.9	07.9	340.6	0000.0	155.8	0231.2	09.2	170.3	
09/25	20:47 01		1385.9	08.9	339.9	0000.0	155.0	0213.2	09.9	169.5	
		AVERAGE	1447.2	08.3	340.6	0000.0	155.8	0223.3	09.3	170.3	GOOD HOUR

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EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN: EPA FORM 1371)
PAGE NUMBER
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TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TYPING GUIDE SHEET

09/25	21:02	01	1557.4	07.5	341.6	0000.0	156.6	0240.9	08.6	169.4	
09/25	21:17	01	1134.5	08.5	340.7	0000.0	154.8	0181.1	09.7	169.6	
09/25	21:32	01	1294.1	07.7	341.5	0000.0	155.7	0212.5	08.8	170.1	
09/25	21:47	01	1443.1	07.5	343.8	0000.0	155.6	0235.9	08.5	170.2	
		AVERAGE	1357.3	07.8	341.9	0000.0	155.7	0217.6	08.9	169.8	GOOD HOUR
09/25	22:02	01	1455.0	07.8	343.8	0000.0	157.0	0191.7	08.5	170.1	
09/25	22:17	01	1336.7	07.7	342.4	0000.0	155.2	0133.9	09.7	168.9	
09/25	22:32	01	1446.4	07.5	342.5	0000.0	154.9	0137.9	08.2	168.8	
09/25	22:47	01	1435.1	07.7	341.4	0000.0	153.4	0106.3	08.2	167.4	
		AVERAGE	1418.3	07.7	342.5	0000.0	155.1	0142.5	08.7	168.8	GOOD HOUR
09/25	23:02	01	1470.3	07.7	341.5	0000.0	153.2	0081.7	08.4	167.6	
09/25	23:17	01	1252.2	08.2	341.0	0000.0	153.4	0071.8	11.9	167.3	
09/25	23:32	01	1360.6	08.1	342.0	0000.0	153.5	0102.1	09.3	167.6	
09/25	23:47	01	1345.3	08.1	341.0	0000.0	151.8	0089.2	09.2	166.5	
		AVERAGE	1357.1	08.0	341.4	0000.0	153.0	0086.2	09.7	167.3	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:49	11.0E+07	19.3E+05	51.1E-01	00.0E-02	10.5E-01	100	79.5	GOOD HOUR
01:49	10.1E+07	16.8E+05	55.1E-01	00.0E-02	82.1E-02	100	85.1	GOOD HOUR
02:49	10.5E+07	19.9E+05	52.3E-01	00.0E-02	10.4E-01	100	80.1	GOOD HOUR
03:49	12.4E+07	23.2E+05	43.1E-01	00.0E-02	10.8E-01	100	75.0	GOOD HOUR
04:49	12.4E+07	22.4E+05	44.1E-01	00.0E-02	10.1E-01	100	77.0	GOOD HOUR
05:49	10.8E+07	20.6E+05	43.9E-01	00.0E-02	16.8E-01	100	61.6	GOOD HOUR
06:49	10.3E+07	20.4E+05	45.0E-01	00.0E-02	10.8E-01	100	75.9	GOOD HOUR
07:49	10.8E+07	19.8E+05	42.0E-01	00.0E-02	99.5E-02	100	76.3	GOOD HOUR
08:49	10.2E+07	18.8E+05	44.0E-01	00.0E-02	99.7E-02	100	77.3	GOOD HOUR
09:49	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:47	11.4E+07	21.7E+05	44.2E-01	00.0E-02	12.9E-01	100	70.9	GOOD HOUR
11:47	12.5E+07	22.3E+05	44.3E-01	00.0E-02	62.7E-02	100	85.9	GOOD HOUR
12:47	12.1E+07	20.2E+05	49.7E-01	00.0E-02	74.4E-02	100	85.0	GOOD HOUR
13:47	11.4E+07	19.4E+05	49.1E-01	00.0E-02	76.2E-02	100	84.5	GOOD HOUR
14:47	12.5E+07	21.7E+05	46.1E-01	00.0E-02	82.7E-02	100	82.1	GOOD HOUR
15:47	12.3E+07	20.2E+05	44.8E-01	00.0E-02	76.2E-02	100	83.0	GOOD HOUR
16:47	11.8E+07	20.1E+05	44.9E-01	00.0E-02	10.1E-01	100	77.5	GOOD HOUR
17:47	11.6E+07	19.7E+05	44.2E-01	00.0E-02	24.3E-01	100	45.0	GOOD HOUR
18:47	12.5E+07	20.0E+05	36.6E-01	00.0E-02	14.8E-01	100	59.6	GOOD HOUR
19:47	12.1E+07	18.4E+05	38.9E-01	00.0E-02	74.2E-02	100	80.9	GOOD HOUR
20:47	11.4E+07	18.6E+05	39.2E-01	00.0E-02	65.7E-02	100	83.2	GOOD HOUR
21:47	12.1E+07	18.9E+05	35.3E-01	00.0E-02	61.8E-02	100	82.5	GOOD HOUR
22:47	11.4E+07	17.7E+05	36.5E-01	00.0E-02	39.6E-02	100	89.2	GOOD HOUR
23:47	11.2E+07	17.8E+05	35.9E-01	00.0E-02	26.2E-02	100	92.7	GOOD HOUR
		AVERAGE	43.9E-01		97.2E-02		77.8	

GOOD DAY

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-1 (4-80)
(PREVIOUSLY CIN, EPA FORM 287)
A-121
PAGE NUMBER
TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 26,1980"

SEPT 26,1980

ENTER FILE NAME
? IN9260
ENTER OUTPUT FILE NAME
? OUT9260
ENTER PROCESS DATA FILE NAME
? P9260
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	08920	00000	BT	NO
0200	09106	00000	BT	NO
0300	08735	00000	BT	NO
0400	07991	00000	BT	NO
0500	07248	00000	BT	NO
0600	08177	00000	BT	NO
0700	08920	00000	BT	NO
0800	09292	00000	BT	NO
0900	09136	00000	BT	NO
1000	09707	00000	BT	NO
1100	09517	00000	BT	NO
1200	08565	00000	BT	NO
1300	08755	00000	BT	NO

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DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BEGIN LAST LINE OF TEXT
3/8"
PAGE NUMBER
BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
TYPING GUIDE SHEET

1400	09707	00000	BT	NO
1500	09136	00000	BT	NO
1600	08946	00000	BT	NO
1700	09136	00000	BT	NO
1800	08565	00000	BT	NO
1900	08946	00000	BT	NO
2000	09517	00000	BT	NO
2100	09326	00000	BT	NO
2200	09136	00000	BT	NO
2300	09326	00000	BT	NO
2400	08375	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/26	00:02	01	1390.5	08.2	342.0	0000.0	152.9	0065.1	09.2	167.4	
09/26	00:17	01	1181.0	08.6	341.3	0000.0	152.2	0039.4	13.4	167.3	
09/26	00:32	01	1329.3	08.2	342.6	0000.0	152.9	0078.1	09.5	168.0	
09/26	00:47	01	1391.2	08.1	342.0	0000.0	151.5	0076.1	09.1	167.1	
		AVERAGE	1323.0	08.3	342.0	0000.0	152.4	0064.7	10.3	167.5	GOOD HOUR
09/26	01:02	01	1393.2	08.1	342.7	0000.0	153.3	0059.3	09.2	168.6	
09/26	01:17	01	1091.3	09.0	341.8	0000.0	152.4	0027.7	14.1	167.6	
09/26	01:32	01	1190.4	08.6	343.6	0000.0	152.3	0044.8	10.6	167.9	
09/26	01:47	01	1163.1	08.9	345.2	0000.0	153.4	0043.8	10.3	169.1	
		AVERAGE	1209.5	08.7	343.3	0000.0	152.9	0043.9	11.1	168.3	GOOD HOUR
09/26	02:02	01	1188.4	08.7	342.9	0000.0	151.8	0049.3	10.0	167.9	
09/26	02:17	01	0883.1	09.9	340.2	0000.0	166.7	0025.7	15.2	175.2	
09/26	02:32	01	1028.1	09.1	334.9	0000.0	164.7	0100.0	11.1	185.6	
09/26	02:47	01	1156.4	08.5	334.6	0000.0	155.9	0113.3	09.9	180.1	
		AVERAGE	1064.0	09.1	338.2	0000.0	159.8	0072.1	11.6	177.2	GOOD HOUR
09/26	03:02	01	1048.0	09.2	333.9	0000.0	153.4	0069.8	10.1	174.7	
09/26	03:17	01	0821.3	10.0	333.2	0000.0	152.6	0015.4	15.8	173.6	
09/26	03:32	01	0992.8	08.7	333.9	0000.0	152.9	0031.9	11.0	172.4	
09/26	03:47	01	1126.5	08.4	334.9	0000.0	152.8	0049.2	10.1	172.1	
		AVERAGE	0997.2	09.1	334.0	0000.0	152.9	0041.6	11.7	173.2	GOOD HOUR
09/26	04:02	01	1256.2	08.0	336.5	0000.0	154.5	0054.3	09.3	171.6	

EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
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09/26	04:17 01	1032.7	09.5	336.2	0000.0	153.2	0020.7	15.4	171.4		
09/26	04:32 01	1161.8	08.8	336.6	0000.0	154.0	0023.3	10.8	172.3		
09/26	04:47 01	1193.7	08.9	337.7	0000.0	154.2	0016.5	10.4	172.6		
	AVERAGE	1161.1	08.8	336.8	0000.0	154.0	0028.7	11.5	172.0	GOOD HOUR	
09/26	05:02 01	1173.7	09.1	338.2	0000.0	151.9	0011.4	10.7	172.3		
09/26	05:17 01	0976.9	10.1	339.2	0000.0	154.1	0004.5	15.8	173.0		
09/26	05:32 01	1177.1	08.8	338.7	0000.0	153.7	0021.1	10.9	172.8		
09/26	05:47 01	0987.9	09.9	337.8	0000.0	153.6	0016.8	11.0	172.8		
	AVERAGE	1078.9	09.5	338.5	0000.0	153.3	0013.5	12.1	172.7	GOOD HOUR	
09/26	06:02 01	0890.4	10.1	338.7	0000.0	153.5	0000.0	11.9	174.1		
09/26	06:17 01	0737.5	10.7	339.2	0000.0	154.9	0000.0	16.1	174.8		
09/26	06:32 01	0889.8	09.6	339.8	0000.0	154.9	0005.8	11.9	174.7		
09/26	06:47 01	0923.7	09.4	339.6	0000.0	156.0	0008.9	11.2	174.3		
	AVERAGE	0860.4	10.0	339.3	0000.0	154.8	0003.7	12.8	174.5	GOOD HOUR	
09/26	07:02 01	0913.7	09.4	339.9	0000.0	156.0	0002.9	11.0	174.3		
09/26	07:17 01	0717.5	10.4	341.3	0000.0	157.4	0000.0	15.9	175.6		
09/26	07:32 01	0905.7	09.1	340.4	0000.0	154.2	0000.0	11.3	174.1		
09/26	07:47 01	0973.6	08.9	340.1	0000.0	211.8	0000.7	10.6	214.7		
	AVERAGE	0877.6	09.5	340.4	0000.0	169.9	0000.9	12.2	184.7	GOOD HOUR	
09/26	08:02 01	1038.1	08.8	338.2	0000.0	228.2	0294.1	10.6	259.2		
09/26	08:17 01	0515.4	12.2	337.0	0000.0	243.9	0219.1	15.0	274.9		
09/26	08:32 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/26	08:47 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0776.8	10.5	337.6	0000.0	236.1	0256.6	12.8	267.1	GOOD HOUR	
09/26	09:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/26	09:17 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/26	09:32 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/26	09:47 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/26	10:05 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/26	10:20 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/26	10:35 01	1829.4	08.9	328.8	0000.0	267.9	0472.3	09.5	313.6		
09/26	10:50 01	1832.1	08.9	329.2	0000.0	268.9	0480.7	09.4	315.7		
	AVERAGE	1830.8	08.9	329.0	0000.0	268.4	0476.5	09.5	314.7	GOOD HOUR	
09/26	11:05 01	1848.7	09.0	323.3	0000.0	269.5	0640.6	09.2	316.8		
09/26	11:20 01	1778.2	09.3	320.1	0000.0	263.6	0581.6	09.7	308.0		
09/26	11:35 01	1631.9	10.0	319.6	0000.0	265.3	0430.0	10.2	312.0		
09/26	11:50 01	1464.3	10.7	315.1	0000.0	257.0	0405.3	10.4	306.3		
	AVERAGE	1680.8	09.8	319.5	0000.0	263.9	0514.4	09.9	310.8	GOOD HOUR	
09/26	12:05 01	1368.6	11.1	320.6	0000.0	262.8	0331.5	10.8	310.9		
09/26	12:20 01	1334.7	10.4	319.2	0000.0	181.3	0810.1	11.1	248.9		
09/26	12:35 01	1170.4	10.5	323.0	0000.0	163.7	0475.2	11.3	215.7		

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EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 237)
A-124
PAGE NUMBER
TYPING GUIDE SHEET
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TOP OF IMAGE AREA
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OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

09/26	12:50	01	1381.2	09.4	322.6	0000.0	153.2	0428.8	10.3	195.0		
		AVERAGE	1313.7	10.4	321.4	0000.0	190.3	0511.4	10.9	242.6	GOOD	HOUR
09/26	13:05	01	1409.1	09.7	326.7	0000.0	157.2	0408.3	10.1	190.8		
09/26	13:20	01	1366.6	10.6	328.9	0000.0	160.0	0413.4	11.3	187.7		
09/26	13:35	01	1361.9	11.1	325.7	0000.0	158.1	0655.6	11.9	184.7		
09/26	13:50	01	1700.4	09.5	326.0	0000.0	152.8	0770.3	10.7	178.6		
		AVERAGE	1459.5	10.2	326.8	0000.0	157.0	0561.9	11.0	185.5	GOOD	HOUR
09/26	14:05	01	1938.5	08.7	325.2	0000.0	150.5	0695.1	09.8	174.2		
09/26	14:20	01	1998.9	08.7	325.0	0000.0	152.0	0676.2	09.6	174.0		
09/26	14:35	01	1806.1	09.5	325.8	0000.0	148.0	0388.1	10.7	167.9		
09/26	14:50	01	1961.8	09.1	324.4	0000.0	146.0	0318.1	10.1	166.3		
		AVERAGE	1926.3	09.0	325.1	0000.0	149.1	0519.4	10.1	170.6	GOOD	HOUR
09/26	15:05	01	1910.5	09.2	323.3	0000.0	146.0	0221.3	10.0	164.6		
09/26	15:20	01	1921.2	09.4	325.3	0000.0	147.9	0156.4	10.4	166.5		
09/26	15:35	01	1892.6	09.0	326.8	0000.0	174.0	0670.5	10.4	191.0		
09/26	15:50	01	1901.9	09.4	324.4	0000.0	155.8	0681.4	10.0	183.9		
		AVERAGE	1906.6	09.3	324.9	0000.0	155.9	0432.4	10.2	176.5	GOOD	HOUR
09/26	16:05	01	1677.8	10.2	324.2	0000.0	149.7	0266.8	11.1	173.5		
09/26	16:20	01	1524.8	10.0	323.9	0000.0	147.5	0201.6	11.0	170.9		
09/26	16:35	01	1554.1	09.2	322.7	0000.0	146.7	0221.4	10.3	168.7		
09/26	16:50	01	1549.5	09.8	323.1	0000.0	148.7	0219.7	10.9	170.1		
		AVERAGE	1576.6	09.8	323.5	0000.0	148.2	0227.4	10.8	170.8	GOOD	HOUR
09/26	17:05	01	1470.3	10.2	330.5	0000.0	149.0	0197.8	10.5	168.9		
09/26	17:20	01	1446.4	10.0	331.4	0000.0	150.7	0218.4	10.1	170.1		
09/26	17:35	01	1417.1	09.9	331.4	0000.0	149.9	0202.7	10.1	170.3		
09/26	17:50	01	1369.2	09.9	332.4	0000.0	151.4	0127.5	10.0	169.8		
		AVERAGE	1425.8	10.0	331.4	0000.0	150.3	0186.6	10.2	169.8	GOOD	HOUR
09/26	18:05	01	1272.1	10.4	331.3	0000.0	148.7	0154.0	10.4	166.0		
09/26	18:20	01	1296.8	10.1	331.5	0000.0	148.4	0181.7	10.9	165.5		
09/26	18:35	01	1171.7	10.3	332.9	0000.0	150.8	0216.9	10.3	166.7		
09/26	18:50	01	1055.4	11.1	331.7	0000.0	154.0	0221.3	11.2	169.2		
		AVERAGE	1199.0	10.5	331.9	0000.0	150.5	0193.5	10.7	166.9	GOOD	HOUR
09/26	19:05	01	1217.0	09.8	335.5	0000.0	154.8	0223.3	10.5	171.3		
09/26	19:20	01	1132.5	10.3	333.8	0000.0	154.6	0210.7	10.6	170.9		
09/26	19:35	01	1120.5	10.1	334.3	0000.0	154.9	0216.5	10.5	172.5		
09/26	19:50	01	1219.6	09.9	334.9	0000.0	153.9	0221.0	10.2	172.9		
		AVERAGE	1172.4	10.0	334.6	0000.0	154.5	0217.9	10.4	171.9	GOOD	HOUR
09/26	20:05	01	1415.8	09.2	336.8	0000.0	156.3	0248.0	09.7	174.4		
09/26	20:20	01	1534.2	08.8	337.9	0000.0	156.9	0250.7	09.2	174.7		
09/26	20:35	01	1425.8	09.9	339.6	0000.0	155.3	0287.0	10.0	174.3		
09/26	20:50	01	1485.6	10.0	339.1	0000.0	155.0	0355.2	10.0	174.0		
		AVERAGE	1465.4	09.5	338.4	0000.0	155.9	0285.2	09.7	174.4	GOOD	HOUR

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EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 257)
A-125
PAGE NUMBER
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD; BEGIN SECTIONS HERE
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TOP OF IMAGE AREA

09/26	21:05	01	1519.5	09.6	338.8	0000.0	155.5	0334.5	09.9	174.3		
09/26	21:20	01	1479.0	09.6	341.2	0000.0	154.2	0353.9	09.7	173.7		
09/26	21:35	01	1336.7	10.2	340.1	0000.0	153.9	0239.1	20.5	173.7		
09/26	21:50	01	1237.6	11.0	338.5	0000.0	153.2	0250.2	10.9	173.7		
		AVERAGE	1393.2	10.1	339.7	0000.0	154.2	0294.4	12.8	173.9	GOOD HOUR	
09/26	22:05	01	1443.1	09.4	339.7	0000.0	154.7	0244.9	11.4	173.4		
09/26	22:20	01	1455.7	09.0	338.7	0000.0	155.4	0265.3	10.2	173.5		
09/26	22:35	01	1379.9	09.5	339.5	0000.0	154.5	0250.2	10.6	174.1		
09/26	22:50	01	1409.8	09.4	340.5	0000.0	157.0	0254.6	09.7	174.8		
		AVERAGE	1422.1	09.3	339.6	0000.0	155.4	0253.8	10.5	174.0	GOOD HOUR	
09/26	23:05	01	1431.1	09.3	341.1	0000.0	157.1	0268.7	09.6	175.5		
09/26	23:20	01	1385.9	09.5	340.5	0000.0	157.0	0279.4	09.7	175.9		
09/26	23:35	01	1405.1	09.5	341.6	0000.0	156.3	0262.9	10.3	175.7		
09/26	23:50	01	1302.1	10.0	340.7	0000.0	156.1	0249.4	09.9	175.6		
		AVERAGE	1381.1	09.6	341.0	0000.0	156.6	0265.1	09.9	175.7	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:47	11.2E+07	18.1E+05	35.7E-01	00.0E-02	20.8E-02	100	94.2	GOOD HOUR
01:47	11.4E+07	19.1E+05	33.6E-01	00.0E-02	15.2E-02	100	95.5	GOOD HOUR
02:47	10.9E+07	18.9E+05	30.6E-01	00.0E-02	26.3E-02	100	91.4	GOOD HOUR
03:47	99.9E+06	17.3E+05	28.7E-01	00.0E-02	15.5E-02	100	94.6	GOOD HOUR
04:47	90.6E+06	15.4E+05	32.7E-01	00.0E-02	10.4E-02	100	96.8	GOOD HOUR
05:47	10.2E+07	18.4E+05	32.2E-01	00.0E-02	52.1E-03	100	98.4	GOOD HOUR
06:47	11.2E+07	20.9E+05	26.8E-01	00.0E-02	15.4E-03	100	99.4	GOOD HOUR
07:47	11.6E+07	20.8E+05	26.1E-01	00.0E-02	35.2E-04	100	99.9	GOOD HOUR
08:47	11.4E+07	22.5E+05	25.4E-01	00.0E-02	10.8E-01	100	57.6	GOOD HOUR
09:47	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:50	11.9E+07	20.3E+05	52.0E-01	00.0E-02	14.2E-01	100	72.7	GOOD HOUR
11:50	10.7E+07	19.7E+05	51.4E-01	00.0E-02	15.9E-01	100	69.0	GOOD HOUR
12:50	10.9E+07	21.3E+05	42.4E-01	00.0E-02	17.4E-01	100	59.0	GOOD HOUR
13:50	12.1E+07	23.3E+05	46.6E-01	00.0E-02	19.3E-01	100	58.5	GOOD HOUR
14:50	11.4E+07	19.7E+05	55.2E-01	00.0E-02	16.3E-01	100	70.4	GOOD HOUR
15:50	11.2E+07	19.7E+05	55.8E-01	00.0E-02	13.8E-01	100	75.3	GOOD HOUR
16:50	11.4E+07	21.1E+05	48.4E-01	00.0E-02	76.9E-02	100	84.1	GOOD HOUR
17:50	10.7E+07	20.2E+05	44.6E-01	00.0E-02	59.3E-02	100	86.7	GOOD HOUR
18:50	11.2E+07	22.0E+05	39.2E-01	00.0E-02	64.6E-02	100	83.5	GOOD HOUR
19:50	11.9E+07	22.5E+05	36.7E-01	00.0E-02	71.0E-02	100	80.7	GOOD HOUR
20:50	11.7E+07	20.9E+05	43.7E-01	00.0E-02	87.0E-02	100	80.1	GOOD HOUR
21:50	11.4E+07	21.7E+05	43.9E-01	00.0E-02	12.3E-01	100	72.0	GOOD HOUR
22:50	11.7E+07	20.7E+05	41.9E-01	00.0E-02	82.9E-02	100	80.2	GOOD HOUR
23:50	10.5E+07	19.0E+05	41.5E-01	00.0E-02	81.9E-02	100	80.3	GOOD HOUR
		AVERAGE	39.8E-01		79.1E-02		81.8	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT 27,1980"

                                                    SEPT 27,1980


ENTER FILE NAME
 ? IN9270
ENTER OUTPUT FILE NAME
 ? OUT9270
ENTER PROCESS DATA FILE NAME
 ? P9270
ENTER HEAT INPUT CONTENT
 ? 12500
   TIME    COAL RATE   STM RATE    COAL TYPE   UPSET CON
             LB/HR       LB/HR

   0100      08185       00000        BT          NO
   0200      08375       00000        BT          NO
   0300      08565       00000        BT          NO
   0400      08755       00000        BT          NO
   0500      08185       00000        BT          NO
   0600      08185       00000        BT          NO
   0700      08375       00000        BT          NO
   0800      08375       00000        BT          NO
   0900      07780       00000        BT          NO
   1000      07410       00000        BT          NO
   1100      09818       00000        BT          NO
   1200      09262       00000        BT          NO
   1300      09262       00000        BT          NO
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EPA Form 2350-4 (4-80) (PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
TYPING GUIDE SHEET

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CENTER OF PAGE

TOP OF IMAGE AREA

DROPPED HEAD: BEGIN SECTIONS HERE

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTL PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/27	1400	09262	00000	BT	NO						
09/27	1500	09262	00000	BT	NO						
09/27	1600	08522	00000	BT	NO						
09/27	1700	09077	00000	BT	NO						
09/27	1800	09818	00000	BT	NO						
09/27	1900	09633	00000	BT	NO						
09/27	2000	09448	00000	BT	NO						
09/27	2100	08892	00000	BT	NO						
09/27	2200	09077	00000	BT	NO						
09/27	2300	08892	00000	BT	NO						
09/27	2400	08522	00000	BT	NO						
09/27	00:05	01	1367.9	09.7	338.8	0000.0	155.3	0249.8	09.8	174.6	
09/27	00:20	01	1151.1	10.6	338.3	0000.0	154.0	0215.2	10.5	174.7	
09/27	00:35	01	1110.6	10.7	340.3	0000.0	157.0	0236.5	11.1	176.8	
09/27	00:50	01	1069.3	11.0	343.2	0000.0	157.0	0250.8	11.2	178.2	
		AVERAGE	1174.7	10.5	340.2	0000.0	155.8	0238.1	10.7	176.1	GOOD HOUR
09/27	01:05	01	1078.6	11.1	346.3	0000.0	156.9	0267.9	11.3	178.3	
09/27	01:20	01	1276.1	09.9	346.7	0000.0	161.9	0288.7	10.7	181.3	
09/27	01:35	01	1060.0	10.1	343.2	0000.0	158.4	0212.0	10.7	177.8	
09/27	01:50	01	1490.9	09.3	341.1	0000.0	157.7	0141.9	10.2	177.7	
		AVERAGE	1226.4	10.1	344.3	0000.0	158.7	0227.6	10.7	178.8	GOOD HOUR
09/27	02:05	01	1428.4	09.5	339.1	0000.0	156.4	0100.3	09.5	177.5	
09/27	02:20	01	1454.3	09.5	337.9	0000.0	157.4	0071.8	09.6	177.4	
09/27	02:35	01	1423.8	09.8	339.1	0000.0	171.1	0071.5	13.4	185.1	
09/27	02:50	01	1511.5	09.3	334.3	0000.0	163.7	0051.9	10.2	191.6	
		AVERAGE	1454.5	09.5	337.6	0000.0	162.2	0073.9	10.7	182.9	GOOD HOUR
09/27	03:05	01	1446.4	09.5	334.1	0000.0	158.1	0198.8	09.7	180.8	
09/27	03:20	01	1434.4	09.6	333.6	0000.0	156.8	0198.9	09.9	178.1	
09/27	03:35	01	1382.5	10.1	338.8	0000.0	155.1	0057.6	13.3	177.2	
09/27	03:50	01	1363.9	10.1	333.7	0000.0	155.0	0076.6	10.8	176.4	
		AVERAGE	1406.8	09.8	335.1	0000.0	156.3	0133.0	10.9	178.1	GOOD HOUR
09/27	04:05	01	1351.3	10.2	336.0	0000.0	155.2	0074.1	10.7	176.5	

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BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

EPA Form 2350-4 (4-80)

(PREVIOUSLY CIN. EPA FORM 287)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1980—[illegible]

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09/27	04:20	01	1302.7	10.4	334.0	0000.0	156.1	0058.1	10.8	175.0	
09/27	04:35	01	1264.8	10.5	333.7	0000.0	154.9	0034.3	12.8	175.1	
09/27	04:50	01	1242.2	10.8	333.7	0000.0	155.5	0045.6	11.2	175.4	
		AVERAGE	1290.3	10.5	334.4	0000.0	155.4	0053.0	11.4	175.5	GOOD HOUR
09/27	05:05	01	1165.1	10.8	333.5	0000.0	154.5	0036.3	11.4	174.4	
09/27	05:20	01	1120.5	10.8	336.6	0000.0	156.6	0034.7	11.6	176.8	
09/27	05:35	01	1029.4	12.0	338.6	0000.0	156.7	0018.8	14.5	177.9	
09/27	05:50	01	1004.8	11.4	338.6	0000.0	156.7	0021.5	12.6	177.9	
		AVERAGE	1080.0	11.3	336.8	0000.0	156.1	0027.8	12.5	176.8	GOOD HOUR
09/27	06:05	01	1040.0	11.3	339.4	0000.0	155.1	0026.6	12.6	176.4	
09/27	06:20	01	1113.2	10.2	337.8	0000.0	155.4	0026.9	11.7	175.5	
09/27	06:35	01	1204.3	09.9	337.3	0000.0	156.0	0017.6	13.5	175.5	
09/27	06:50	01	1205.6	09.8	335.7	0000.0	155.2	0032.7	11.2	175.5	
		AVERAGE	1140.8	10.3	337.6	0000.0	155.4	0026.0	12.3	175.7	GOOD HOUR
09/27	07:05	01	1356.6	09.6	336.6	0000.0	155.2	0035.4	11.1	175.3	
09/27	07:20	01	1409.1	09.2	336.0	0000.0	153.9	0037.1	10.7	175.1	
09/27	07:35	01	1443.7	09.3	335.8	0000.0	154.3	0023.5	13.3	174.9	
09/27	07:50	01	1478.9	09.5	337.5	0000.0	154.8	0154.4	10.7	175.7	
		AVERAGE	1422.1	09.4	336.5	0000.0	154.6	0042.6	11.5	175.3	GOOD HOUR
09/27	08:05	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/27	08:20	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/27	08:35	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/27	08:50	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR
09/27	09:14	01	1351.9	09.6	336.3	0000.0	155.3	0320.5	10.1	175.6	
09/27	09:29	01	1184.4	10.2	335.6	0000.0	154.2	0230.4	10.4	174.5	
09/27	09:44	01	1033.4	11.5	336.5	0000.0	154.1	0306.2	11.7	175.4	
09/27	09:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1189.9	10.4	336.1	0000.0	154.5	0285.7	10.7	175.2	GOOD HOUR
09/27	10:14	01	0978.9	11.0	336.9	0000.0	156.6	0411.1	10.7	174.4	
09/27	10:29	01	0914.4	11.2	332.1	0000.0	186.9	0542.2	10.8	197.4	
09/27	10:44	01	0913.7	10.6	329.5	0000.0	158.4	0281.9	10.2	185.9	
09/27	10:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0935.7	10.9	332.8	0000.0	167.3	0411.7	10.6	185.9	GOOD HOUR
09/27	11:14	01	1037.4	09.5	327.7	0000.0	153.2	0420.8	09.0	176.0	
09/27	11:29	01	1099.9	09.5	325.8	0000.0	152.3	0351.1	08.8	174.1	
09/27	11:44	01	1141.1	09.9	325.6	0000.0	149.3	0381.7	09.0	170.5	
09/27	11:59	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1092.8	09.6	326.4	0000.0	151.6	0384.5	08.9	173.5	GOOD HOUR
09/27	12:14	01	1171.7	10.7	323.0	0000.0	153.3	0381.4	09.9	175.6	
09/27	12:29	01	1199.7	10.8	326.9	0000.0	158.6	0425.3	09.9	175.9	
09/27	12:44	01	1391.2	08.1	328.9	0000.0	151.7	0514.4	09.0	173.5	

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3/8"

BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

EPA Form 2350-4 (4-80)

(PREVIOUSLY CIN. EPA FORM 287)

☆ U.S. GOVERNMENT PRINTING OFFICE

TYPING GUIDE SHEET

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CENTER OF PAGE

TOP OF IMAGE AREA

DROPPED HEAD: BEGIN SECTIONS HERE

09/27	12:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1254.2	09.9	326.3	0000.0	154.5	0440.4	09.6	175.0	GOOD HOUR	
09/27	13:14 01	1480.3	08.3	323.9	0000.0	154.8	0534.1	09.6	176.0		
09/27	13:29 01	1464.3	08.0	324.6	0000.0	154.6	0510.6	09.6	175.6		
09/27	13:44 01	1302.7	08.7	327.4	0000.0	156.6	0482.8	10.2	177.6		
09/27	13:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1415.8	08.3	325.3	0000.0	155.3	0509.2	09.8	176.4	GOOD HOUR	
09/27	14:14 01	1230.3	08.2	330.0	0000.0	155.6	0439.2	10.1	179.8		
09/27	14:29 01	1212.3	08.3	331.0	0000.0	155.6	0459.2	10.3	180.0		
09/27	14:44 01	1258.2	07.6	328.2	0000.0	158.4	0492.7	09.2	179.1		
09/27	14:59 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1233.6	08.0	329.7	0000.0	156.5	0463.7	09.9	179.6	GOOD HOUR	
09/27	15:14 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/27	15:27 01	0950.3	08.3	277.4	0000.0	154.6	0404.3	09.8	178.2		
09/27	15:42 01	1085.3	08.8	297.1	0000.0	153.9	0229.3	10.2	175.9		
09/27	15:57 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1017.8	08.6	287.3	0000.0	154.3	0316.8	10.0	177.1	GOOD HOUR	
09/27	16:12 01	1114.5	08.6	304.1	0000.0	151.9	0178.5	10.2	172.8		
09/27	16:27 01	1098.6	08.3	306.4	0000.0	152.2	0210.7	10.3	173.5		
09/27	16:42 01	1061.3	08.4	308.3	0000.0	150.9	0237.0	10.0	172.1		
09/27	16:57 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1091.5	08.4	306.3	0000.0	151.7	0208.7	10.2	172.8	GOOD HOUR	
09/27	17:12 01	0946.9	08.9	311.4	0000.0	150.8	0225.2	11.1	172.2		
09/27	17:27 01	1109.2	08.0	313.3	0000.0	150.7	0234.2	10.0	171.3		
09/27	17:42 01	1204.3	08.2	312.7	0000.0	151.5	0236.3	10.0	170.5		
09/27	17:57 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1086.8	08.4	312.5	0000.0	151.0	0231.9	10.4	171.3	GOOD HOUR	
09/27	18:12 01	1543.5	07.6	313.5	0000.0	150.2	0261.3	09.2	168.9		
09/27	18:27 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/27	18:42 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/27	18:47 01	1552.8	07.7	286.6	0000.0	152.3	0279.3	09.1	171.6		
	AVERAGE	1548.2	07.7	300.1	0000.0	151.3	0270.3	09.2	170.3	GOOD HOUR	
09/27	19:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/27	19:17 01	1568.1	08.2	310.4	0000.0	185.5	0696.5	09.5	201.6		
09/27	19:32 01	1630.6	08.1	314.6	0000.0	158.7	0309.4	09.3	182.6		
09/27	19:47 01	1596.0	08.4	316.2	0000.0	156.3	0268.1	09.5	176.8		
	AVERAGE	1598.2	08.2	313.7	0000.0	166.8	0424.7	09.4	187.0	GOOD HOUR	
09/27	20:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/27	20:17 01	1508.2	08.5	316.9	0000.0	155.6	0224.9	09.8	174.2		
09/27	20:32 01	1498.9	08.4	317.8	0000.0	154.9	0230.4	09.7	173.1		
09/27	20:47 01	1416.5	09.1	323.2	0000.0	155.1	0256.4	10.9	173.6		
	AVERAGE	1474.5	08.7	319.3	0000.0	155.2	0237.2	10.1	173.6	GOOD HOUR	

BEGIN LAST LINE OF TEXT

3/8"

BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

EPA Form 2350-4 (4-80)

(PREVIOUSLY CIN. EPA FORM 287)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1981 — 346-401

TYPING GUIDE SHEET

09/27	21:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/27	21:17	01	1498.2	08.5	321.7	0000.0	154.5	0247.6	10.2	172.4		
09/27	21:32	01	1467.7	08.3	320.9	0000.0	154.8	0226.6	10.0	172.4		
09/27	21:47	01	1371.9	08.7	320.2	0000.0	153.5	0222.4	10.3	172.0		
		AVERAGE	1445.9	08.5	320.9	0000.0	154.3	0232.2	10.2	172.3	GOOD HOUR	
09/27	22:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/27	22:17	01	1179.7	08.8	320.3	0000.0	153.4	0213.9	10.7	171.4		
09/27	22:32	01	1242.2	08.3	320.8	0000.0	153.7	0239.8	10.4	171.6		
09/27	22:47	01	1500.9	08.0	321.7	0000.0	153.1	0289.1	09.7	170.7		
		AVERAGE	1307.6	08.4	320.9	0000.0	153.4	0247.6	10.3	171.2	GOOD HOUR	
09/27	23:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/27	23:17	01	1215.0	08.9	320.9	0000.0	152.5	0216.1	11.2	170.9		
09/27	23:32	01	1356.6	08.5	321.3	0000.0	152.1	0271.9	10.6	171.5		
09/27	23:47	01	1532.2	07.8	321.8	0000.0	152.0	0283.9	09.7	171.2		
		AVERAGE	1367.9	08.4	321.3	0000.0	152.2	0257.3	10.5	171.2	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:50	10.2E+07	20.2E+05	38.5E-01	00.0E-02	79.1E-02	100	79.4	GOOD HOUR
01:50	10.5E+07	19.9E+05	38.7E-01	00.0E-02	76.2E-02	100	80.3	GOOD HOUR
02:50	10.7E+07	19.3E+05	43.6E-01	00.0E-02	24.6E-02	100	94.3	GOOD HOUR
03:50	10.9E+07	20.3E+05	43.3E-01	00.0E-02	45.4E-02	100	89.5	GOOD HOUR
04:50	10.2E+07	20.1E+05	42.2E-01	00.0E-02	19.0E-02	100	95.5	GOOD HOUR
05:50	10.2E+07	21.8E+05	38.1E-01	00.0E-02	11.3E-02	100	97.0	GOOD HOUR
06:50	10.5E+07	20.3E+05	36.7E-01	00.0E-02	10.2E-02	100	97.2	GOOD HOUR
07:50	10.5E+07	18.7E+05	42.1E-01	00.0E-02	22.6E-02	100	94.6	GOOD HOUR
08:50	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
09:59	92.6E+06	18.2E+05	38.7E-01	00.0E-02	95.7E-02	100	75.3	GOOD HOUR
10:59	12.3E+07	25.3E+05	32.0E-01	00.0E-02	13.6E-01	100	57.6	GOOD HOUR
11:59	11.6E+07	21.1E+05	33.0E-01	00.0E-02	10.9E-01	100	66.9	GOOD HOUR
12:59	11.6E+07	21.5E+05	38.7E-01	00.0E-02	13.3E-01	100	65.7	GOOD HOUR
13:59	11.6E+07	18.9E+05	38.4E-01	00.0E-02	15.6E-01	100	59.3	GOOD HOUR
14:59	11.6E+07	18.5E+05	32.7E-01	00.0E-02	14.3E-01	100	56.2	GOOD HOUR
15:57	10.7E+07	17.7E+05	28.1E-01	00.0E-02	99.0E-02	100	64.7	GOOD HOUR
16:57	11.3E+07	18.7E+05	29.8E-01	00.0E-02	66.3E-02	100	77.8	GOOD HOUR
17:57	12.3E+07	20.1E+05	29.5E-01	00.0E-02	75.0E-02	100	74.6	GOOD HOUR
18:47	12.0E+07	18.7E+05	39.8E-01	00.0E-02	78.4E-02	100	80.3	GOOD HOUR
19:47	11.8E+07	19.1E+05	43.0E-01	00.0E-02	12.6E-01	100	70.6	GOOD HOUR
20:47	11.1E+07	18.6E+05	41.1E-01	00.0E-02	75.1E-02	100	81.7	GOOD HOUR
21:47	11.3E+07	18.8E+05	39.7E-01	00.0E-02	73.7E-02	100	81.4	GOOD HOUR
22:47	11.1E+07	18.2E+05	35.5E-01	00.0E-02	79.3E-02	100	77.7	GOOD HOUR
23:47	10.7E+07	17.5E+05	37.3E-01	00.0E-02	84.3E-02	100	77.4	GOOD HOUR
		AVERAGE	37.4E-01		79.1E-02		78.1	

GOOD DAY

BEGIN LAST LINE OF TEXT
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
A-131
PAGE NUMBER
TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

BEGIN LAST LINE OF TEXT
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
CENTER OF PAGE
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT 28,190_80"
```

SEPT 28,1980

```
ENTER FILE NAME
 ? IN9280
ENTER OUTPUT FILE NAME
 ? OUT9280
ENTER PROCESS DATA FILE NAME
 ? P9280
ENTER HEAT INPUT CONTENT
 ? 12500
```

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	07966	00000	BT	NO
0200	08892	00000	BT	NO
0300	08892	00000	BT	NO
0400	08707	00000	BT	NO
0500	08151	00000	BT	NO
0600	08707	00000	BT	NO
0700	08892	00000	BT	NO
0800	09448	00000	BT	NO
0900	08929	00000	BT	NO
1000	08929	00000	BT	NO
1100	08929	00000	BT	NO
1200	09858	00000	BT	NO
1300	10045	00000	BT	NO

1400	09673	00000	BT	NO
1500	10045	00000	BT	NO
1600	10045	00000	BT	NO
1700	10417	00000	BT	NO
1800	10603	00000	BT	NO
1900	10231	00000	BT	NO
2000	10603	00000	BT	NO
2100	09115	00000	BT	NO
2200	09300	00000	BT	NO
2300	08370	00000	BT	NO
2400	07998	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/28	00:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	00:17	01	1335.3	09.5	320.1	0000.0	151.0	0203.2	11.6	170.2	
09/28	00:32	01	1343.9	09.5	320.7	0000.0	152.1	0218.0	11.9	170.2	
09/28	00:47	01	1407.1	09.0	321.2	0000.0	150.4	0235.3	11.3	169.0	
		AVERAGE	1362.1	09.3	320.7	0000.0	151.2	0218.8	11.6	169.8	GOOD HOUR
09/28	01:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	01:17	01	1368.0	09.1	321.6	0000.0	150.6	0251.1	11.4	169.2	
09/28	01:32	01	1478.4	09.0	321.6	0000.0	150.1	0256.4	11.2	169.4	
09/28	01:47	01	1375.9	09.2	325.4	0000.0	150.3	0278.5	11.7	170.5	
		AVERAGE	1407.4	09.1	322.9	0000.0	150.3	0262.0	11.4	169.7	GOOD HOUR
09/28	02:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	02:17	01	1498.2	08.7	323.4	0000.0	151.0	0256.6	10.6	170.3	
09/28	02:32	01	1411.8	09.3	322.4	0000.0	150.5	0239.0	11.3	169.6	
09/28	02:47	01	1227.6	09.9	323.1	0000.0	151.1	0212.9	12.6	169.7	
		AVERAGE	1379.2	09.3	323.0	0000.0	150.9	0236.2	11.5	169.9	GOOD HOUR
09/28	03:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	03:17	01	1365.9	08.9	322.9	0000.0	173.5	0570.2	11.2	188.4	
09/28	03:32	01	1464.3	08.6	320.3	0000.0	174.4	0578.4	10.7	195.0	
09/28	03:47	01	1496.9	08.6	320.3	0000.0	158.0	0382.9	10.7	185.9	
		AVERAGE	1442.4	08.7	321.2	0000.0	168.6	0510.5	10.9	189.8	GOOD HOUR
09/28	04:02	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

09/28	04:17 01	1466.3	08.7	320.6	0000.0	151.1	0264.4	10.8	172.3		
09/28	04:32 01	1439.7	08.9	321.6	0000.0	150.3	0236.7	11.0	170.3		
09/28	04:47 01	1453.0	08.9	321.6	0000.0	150.4	0240.1	10.9	170.0		
	AVERAGE	1453.0	08.8	321.3	0000.0	150.6	0247.1	10.9	170.9	GOOD HOUR	
09/28	05:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	05:17 01	1459.0	08.8	323.0	0000.0	149.4	0241.9	11.1	168.9		
09/28	05:32 01	1296.1	09.8	325.2	0000.0	150.5	0229.8	12.0	168.7		
09/28	05:47 01	1278.1	09.7	325.5	0000.0	150.1	0231.8	12.5	168.9		
	AVERAGE	1344.4	09.4	324.6	0000.0	150.0	0234.5	11.9	168.8	GOOD HOUR	
09/28	06:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	06:17 01	1290.1	09.3	324.1	0000.0	150.8	0239.5	11.7	168.6		
09/28	06:32 01	1278.1	09.4	324.9	0000.0	149.7	0242.5	11.8	168.3		
09/28	06:47 01	1379.9	08.7	325.1	0000.0	149.8	0262.4	11.4	168.7		
	AVERAGE	1316.0	09.1	324.7	0000.0	150.1	0248.1	11.6	168.5	GOOD HOUR	
09/28	07:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	07:17 01	1544.8	08.1	325.8	0000.0	149.6	0301.1	10.3	167.9		
09/28	07:32 01	1552.8	08.1	325.8	0000.0	146.0	0171.0	10.3	164.1		
09/28	07:47 01	1568.1	08.1	326.1	0000.0	148.7	0201.8	10.5	165.9		
	AVERAGE	1555.2	08.1	325.9	0000.0	148.1	0224.6	10.4	166.0	GOOD HOUR	
09/28	08:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	08:17 01	1584.7	07.5	326.7	0000.0	150.0	0632.9	09.9	169.0		
09/28	08:32 01	1474.9	08.3	327.2	0000.0	148.9	0621.1	09.9	168.4		
09/28	08:47 01	1461.7	08.8	324.2	0000.0	148.1	0346.2	10.1	165.9		
	AVERAGE	1507.1	08.2	326.0	0000.0	149.0	0533.4	10.0	167.8	GOOD HOUR	
09/28	09:02 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	09:17 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	09:32 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	09:47 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR	
09/28	10:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	10:18 01	1365.9	08.1	328.9	0000.0	150.1	0200.2	10.8	169.8		
09/28	10:33 01	1337.9	08.5	331.9	0000.0	151.0	0234.2	11.0	170.7		
09/28	10:48 01	1256.9	08.5	332.2	0000.0	148.1	0231.8	10.6	170.3		
	AVERAGE	1320.2	08.4	331.0	0000.0	149.7	0222.1	10.8	170.3	GOOD HOUR	
09/28	11:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	11:18 01	1323.4	07.4	319.8	0000.0	144.9	0188.7	09.9	165.7		
09/28	11:33 01	1313.4	07.5	323.2	0000.0	145.4	0170.8	09.6	165.2		
09/28	11:48 01	1189.0	08.3	316.6	0000.0	138.2	0134.5	10.1	159.0		
	AVERAGE	1275.3	07.7	319.9	0000.0	142.8	0164.7	09.9	163.3	GOOD HOUR	
09/28	12:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/28	12:18 01	1336.0	07.4	325.9	0000.0	149.8	0173.4	09.3	169.3		
09/28	12:33 01	1361.3	07.2	327.6	0000.0	148.7	0196.4	08.8	167.2		

09/28	12:48 01	1371.2	07.0	324.6	0000.0	147.0	0201.9	08.6	165.6	
	AVERAGE	1356.2	07.2	326.0	0000.0	148.5	0190.6	08.9	167.4	GOOD HOUR
09/28	13:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	13:18 01	1274.1	07.4	328.5	0000.0	152.2	0271.5	09.1	171.2	
09/28	13:33 01	1316.0	07.3	328.3	0000.0	152.2	0300.2	09.0	172.0	
09/28	13:48 01	1286.8	07.3	327.9	0000.0	152.6	0312.7	08.9	171.6	
	AVERAGE	1292.3	07.3	328.2	0000.0	152.3	0294.8	09.0	171.6	GOOD HOUR
09/28	14:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	14:18 01	1247.5	07.2	327.0	0000.0	166.0	0625.6	08.7	182.6	
09/28	14:33 01	1217.6	07.6	321.3	0000.0	176.6	0457.8	08.8	193.0	
09/28	14:48 01	1159.8	08.0	322.4	0000.0	155.1	0240.2	09.4	179.3	
	AVERAGE	1208.3	07.6	323.6	0000.0	165.9	0441.2	09.0	185.0	GOOD HOUR
09/28	15:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	15:18 01	1099.2	07.9	324.5	0000.0	154.5	0157.6	09.5	174.1	
09/28	15:33 01	1124.5	08.0	325.5	0000.0	154.7	0158.9	09.5	173.7	
09/28	15:48 01	1155.1	07.7	325.1	0000.0	154.4	0159.6	09.3	172.5	
	AVERAGE	1126.3	07.9	325.0	0000.0	154.5	0158.7	09.4	173.4	GOOD HOUR
09/28	16:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	16:18 01	1109.9	07.9	326.5	0000.0	155.2	0140.8	09.2	173.5	
09/28	16:33 01	1033.4	08.1	324.9	0000.0	154.5	0116.5	09.7	172.5	
09/28	16:48 01	0967.6	08.3	325.8	0000.0	155.0	0087.2	09.9	172.6	
	AVERAGE	1037.0	08.1	325.7	0000.0	154.9	0114.8	09.6	172.9	GOOD HOUR
09/28	17:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	17:18 01	1298.1	07.2	327.5	0000.0	155.4	0164.1	08.9	172.8	
09/28	17:33 01	1250.9	07.9	327.6	0000.0	156.1	0155.3	09.1	173.1	
09/28	17:48 01	1230.9	07.9	328.2	0000.0	156.1	0119.7	10.0	172.8	
	AVERAGE	1260.0	07.7	327.8	0000.0	155.9	0146.4	09.3	172.9	GOOD HOUR
09/28	18:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	18:18 01	1330.7	07.5	326.3	0000.0	153.6	0209.2	08.7	172.0	
09/28	18:33 01	1380.5	07.7	327.8	0000.0	154.6	0239.0	08.9	174.0	
09/28	18:48 01	1478.3	07.4	327.5	0000.0	155.9	0237.9	08.8	174.5	
	AVERAGE	1396.5	07.5	327.2	0000.0	154.7	0228.7	08.8	173.5	GOOD HOUR
09/28	19:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	19:18 01	1405.1	07.6	331.3	0000.0	188.3	0700.8	09.0	202.4	
09/28	19:33 01	1409.8	07.7	328.6	0000.0	164.8	0391.1	09.5	192.2	
09/28	19:48 01	1476.3	07.5	330.2	0000.0	161.7	0372.9	09.6	183.0	
	AVERAGE	1430.4	07.6	330.0	0000.0	171.6	0488.3	09.4	192.5	GOOD HOUR
09/28	20:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	20:18 01	1546.1	07.2	331.6	0000.0	161.0	0409.9	08.8	179.2	
09/28	20:33 01	1412.5	08.1	331.6	0000.0	159.0	0376.3	08.7	177.7	
09/28	20:48 01	1305.4	08.8	332.4	0000.0	159.8	0306.3	10.1	177.3	
	AVERAGE	1421.3	08.0	331.9	0000.0	159.9	0364.2	09.2	178.1	GOOD HOUR

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3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 227)
A-135
PAGE NUMBER
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
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DROPPED HEAD: BEGIN SECTIONS HERE
CENTER OF PAGE
TOP OF IMAGE AREA

09/28	21:03 00	0000.0	00.0	000.0	0000.0	000.1	0000.0	00.0	000.0	
09/28	21:18 01	1325.3	08.4	332.0	0000.0	159.7	0254.3	10.4	176.8	
09/28	21:33 01	1437.1	08.0	335.5	0000.0	160.5	0297.3	09.5	177.3	
09/28	21:48 01	1447.0	08.3	335.8	0000.0	159.7	0307.2	09.4	176.5	
	AVERAGE	1403.1	08.2	334.4	0000.0	160.0	0286.3	09.8	176.9	GOOD HOUR
09/28	22:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	22:18 01	1668.5	07.3	334.9	0000.0	159.6	0398.1	08.8	176.2	
09/28	22:33 01	1691.8	07.2	334.9	0000.0	157.0	0336.1	08.7	174.0	
09/28	22:48 01	1696.4	07.2	334.9	0000.0	155.9	0305.1	08.5	172.4	
	AVERAGE	1685.6	07.2	334.9	0000.0	157.5	0346.4	08.7	174.2	GOOD HOUR
09/28	23:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/28	23:18 01	1255.5	09.5	333.0	0000.0	155.0	0165.9	11.5	171.9	
09/28	23:33 01	1138.5	09.9	332.2	0000.0	155.3	0142.6	12.0	171.4	
09/28	23:48 01	1306.1	09.2	334.0	0000.0	155.1	0166.6	11.5	171.5	
	AVERAGE	1233.4	09.5	333.1	0000.0	155.1	0158.4	11.7	171.6	GOOD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:47	99.6E+06	17.7E+05	40.1E-01	00.0E-02	80.2E-02	100	80.0	GOOD HOUR
01:47	11.1E+07	19.3E+05	40.6E-01	00.0E-02	94.3E-02	100	76.8	GOOD HOUR
02:47	11.1E+07	19.7E+05	40.5E-01	00.0E-02	85.6E-02	100	78.9	GOOD HOUR
03:47	10.9E+07	18.3E+05	40.3E-01	00.0E-02	17.3E-01	100	57.0	GOOD HOUR
04:47	10.2E+07	17.3E+05	41.0E-01	00.0E-02	84.2E-02	100	79.5	GOOD HOUR
05:47	10.9E+07	19.5E+05	39.9E-01	00.0E-02	88.4E-02	100	77.9	GOOD HOUR
06:47	11.1E+07	19.4E+05	38.1E-01	00.0E-02	91.2E-02	100	76.1	GOOD HOUR
07:47	11.8E+07	18.9E+05	41.4E-01	00.0E-02	72.7E-02	100	82.4	GOOD HOUR
08:47	11.2E+07	18.0E+05	40.4E-01	00.0E-02	16.6E-01	100	58.9	GOOD HOUR
09:47	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:48	11.2E+07	18.3E+05	35.9E-01	00.0E-02	74.9E-02	100	79.1	GOOD HOUR
11:48	12.3E+07	19.2E+05	33.0E-01	00.0E-02	50.8E-02	100	84.6	GOOD HOUR
12:48	12.6E+07	18.8E+05	33.7E-01	00.0E-02	54.1E-02	100	84.0	GOOD HOUR
13:48	12.1E+07	18.3E+05	32.5E-01	00.0E-02	84.4E-02	100	74.0	GOOD HOUR
14:48	12.6E+07	19.4E+05	31.0E-01	00.0E-02	12.6E-01	100	59.3	GOOD HOUR
15:48	12.6E+07	19.8E+05	29.4E-01	00.0E-02	47.2E-02	100	84.0	GOOD HOUR
16:48	13.0E+07	20.9E+05	27.6E-01	00.0E-02	34.6E-02	100	87.5	GOOD HOUR
17:48	13.3E+07	20.6E+05	32.4E-01	00.0E-02	43.1E-02	100	86.7	GOOD HOUR
18:48	12.8E+07	19.6E+05	35.6E-01	00.0E-02	64.4E-02	100	81.9	GOOD HOUR
19:48	13.3E+07	20.5E+05	36.6E-01	00.0E-02	14.4E-01	100	60.6	GOOD HOUR
20:48	11.4E+07	18.2E+05	37.6E-01	00.0E-02	10.6E-01	100	71.8	GOOD HOUR
21:48	11.6E+07	18.8E+05	37.7E-01	00.0E-02	87.6E-02	100	76.8	GOOD HOUR
22:48	10.5E+07	15.7E+05	42.0E-01	00.0E-02	96.5E-02	100	77.0	GOOD HOUR
23:48	10.0E+07	18.1E+05	37.0E-01	00.0E-02	58.4E-02	100	84.2	GOOD HOUR
		AVERAGE	36.7E-01		87.3E-02		76.5	

GOOD DAY

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3/8"
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
A-136
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD: BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

```
ENTER DATE OF TEST
 ? "SEPT 29,1980"

SEPT 29,1980

ENTER FILE NAME
 ? IN9290
ENTER OUTPUT FILE NAME
 ? OUT9290
ENTER PROCESS DATA FILE NAME
 ? P9290
ENTER HEAT INPUT CONTENT
 ? 12500
   TIME    COAL RATE  STM RATE   COAL TYPE  UPSET CON
             LB/HR      LB/HR

   0100      07998      00000        BT          NO
   0200      07998      00000        BT          NO
   0300      07998      00000        BT          NO
   0400      07812      00000        BT          NO
   0500      07440      00000        BT          NO
   0600      07812      00000        BT          NO
   0700      08929      00000        BT          NO
   0800      09115      00000        BT          NO
   0900      08460      00000        BT          NO
   1000      08460      00000        BT          NO
   1100      08460      00000        BT          NO
   1200      08989      00000        BT          NO
   1300      09165      00000        BT          NO
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3/8"
EPA Form 2350-4 (4-80) (PREVIOUSLY CIN. EPA FORM 287)
PAGE NUMBER
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD. BEGIN SECTIONS HERE
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
TYPING GUIDE SHEET

1400	07931	00000	BT	NO
1500	08107	00000	BT	NO
1600	07931	00000	BT	NO
1700	07931	00000	BT	NO
1800	07755	00000	BT	NO
1900	08107	00000	BT	NO
2000	08636	00000	BT	NO
2100	08460	00000	BT	NO
2200	08460	00000	BT	NO
2300	07579	00000	BT	NO
2400	07402	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/29	00:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/29	00:18	01	1261.5	09.8	333.9	0000.0	155.2	0171.8	11.8	171.7	
09/29	00:33	01	1282.8	09.0	335.4	0000.0	154.6	0167.6	11.4	171.4	
09/29	00:48	01	1320.0	08.8	335.4	0000.0	155.6	0190.5	10.9	171.2	
		AVERAGE	1288.1	09.2	334.9	0000.0	155.1	0176.6	11.4	171.4	GOOD HOUR
09/29	01:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/29	01:18	01	1011.5	10.6	336.7	0000.0	154.8	0125.4	12.7	172.0	
09/29	01:33	01	1113.9	09.3	337.0	0000.0	154.5	0127.4	11.8	171.4	
09/29	01:48	01	1181.7	09.0	335.6	0000.0	154.9	0143.2	10.9	170.8	
		AVERAGE	1102.4	09.6	336.4	0000.0	154.7	0132.0	11.8	171.4	GOOD HOUR
09/29	02:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/29	02:18	01	1211.6	08.7	335.2	0000.0	154.4	0169.6	10.5	170.5	
09/29	02:33	01	1231.6	08.8	334.9	0000.0	153.6	0166.8	10.7	170.1	
09/29	02:48	01	1227.6	08.8	335.0	0000.0	153.7	0165.6	10.6	169.6	
		AVERAGE	1223.6	08.8	335.0	0000.0	153.9	0167.3	10.6	170.1	GOOD HOUR
09/29	03:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
09/29	03:18	01	1250.2	08.9	335.5	0000.0	153.0	0164.9	10.8	169.8	
09/29	03:33	01	1291.4	08.7	335.3	0000.0	176.7	0505.0	10.6	185.7	
09/29	03:48	01	1253.5	08.9	331.0	0000.0	161.1	0273.4	10.8	186.7	
		AVERAGE	1265.0	08.8	333.9	0000.0	163.6	0314.4	10.7	180.7	GOOD HOUR
09/29	04:03	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	

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09/29	04:18 01	1185.0	09.2	331.1	0000.0	156.1	0201.9	10.9	175.5		
09/29	04:33 01	1243.6	08.9	331.9	0000.0	155.0	0196.8	10.9	174.5		
09/29	04:48 01	1312.7	08.7	332.0	0000.0	155.6	0210.9	10.7	174.8		
	AVERAGE	1247.1	08.9	331.7	0000.0	155.6	0203.2	10.8	174.9	GOOD	HOUR
09/29	05:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/29	05:18 01	1220.9	09.4	332.5	0000.0	154.8	0184.3	11.4	173.5		
09/29	05:33 01	1145.8	10.0	332.4	0000.0	155.2	0162.4	12.0	173.6		
09/29	05:48 01	1220.3	09.9	331.8	0000.0	156.3	0171.6	12.0	174.1		
	AVERAGE	1195.7	09.8	332.2	0000.0	155.4	0172.8	11.8	173.7	GOOD	HOUR
09/29	06:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/29	06:18 01	1342.0	09.6	337.6	0000.0	157.3	0257.6	11.4	175.6		
09/29	06:33 01	1538.1	08.5	334.2	0000.0	157.5	0287.8	10.2	174.0		
09/29	06:48 01	1669.2	08.3	334.2	0000.0	155.7	0312.7	09.7	172.7		
	AVERAGE	1516.4	08.8	335.3	0000.0	156.8	0286.0	10.4	174.1	GOOD	HOUR
09/29	07:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/29	07:18 01	1439.7	09.2	332.9	0000.0	155.6	0254.4	10.6	173.3		
09/29	07:33 01	1431.7	09.3	332.2	0000.0	155.1	0258.3	10.7	172.4		
09/29	07:48 01	1465.7	08.9	332.7	0000.0	155.2	0258.5	10.7	172.8		
	AVERAGE	1445.7	09.1	332.6	0000.0	155.3	0257.1	10.7	172.8	GOOD	HOUR
09/29	08:03 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/29	08:18 01	1596.7	08.5	331.3	0000.0	152.5	0286.1	10.0	169.1		
09/29	08:33 01	1642.6	08.5	334.0	0000.0	154.5	0294.1	10.1	172.1		
09/29	08:48 01	1559.4	08.7	330.9	0000.0	150.1	0264.7	10.3	168.2		
	AVERAGE	1599.6	08.6	332.1	0000.0	152.4	0281.6	10.1	169.8	GOOD	HOUR
09/29	10:08 01	1433.7	08.8	332.2	0000.0	152.5	0215.1	10.3	170.5		
09/29	10:23 01	1361.3	09.0	332.1	0000.0	152.5	0203.6	10.6	170.1		
09/29	10:38 01	1349.3	09.0	331.2	0000.0	152.4	0208.4	10.4	170.6		
09/29	10:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1381.4	08.9	331.8	0000.0	152.5	0209.0	10.4	170.4	GOOD	HOUR
09/29	11:08 01	1331.3	09.1	324.9	0000.0	155.6	0264.0	10.3	177.4		
09/29	11:23 01	1374.6	08.7	319.9	0000.0	146.9	0255.5	10.0	166.1		
09/29	11:38 01	1388.5	08.8	325.2	0000.0	151.1	0256.8	09.8	170.4		
09/29	11:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1364.8	08.9	323.3	0000.0	151.2	0258.8	10.0	171.3	GOOD	HOUR
09/29	12:08 01	1258.2	08.9	324.8	0000.0	153.9	0182.1	10.2	171.9		
09/29	12:23 01	1313.4	08.4	330.4	0000.0	154.8	0196.6	09.6	171.8		
09/29	12:38 01	1353.9	07.8	327.8	0000.0	149.1	0237.0	09.1	167.0		
09/29	12:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1308.5	08.4	327.7	0000.0	152.6	0205.2	09.6	170.2	GOOD	HOUR
09/29	13:08 01	1302.7	08.3	332.2	0000.0	155.5	0317.6	09.0	172.1		
09/29	13:23 01	1282.8	08.5	330.2	0000.0	154.2	0308.7	09.2	171.2		
09/29	13:38 01	1169.1	09.5	330.9	0000.0	154.7	0296.3	09.5	171.5		

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3/8"

BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

EPA Form 2350-4 (4-80)

(PREVIOUSLY CIN, EPA FORM 287)

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TYPING GUIDE SHEET

09/29	13:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	1251.5	08.8	331.1	0000.0	154.8	0307.5	09.2	171.6	GOOD HOUR		
09/29	14:08 01	1073.3	09.9	330.5	0000.0	154.7	0255.5	10.4	171.6			
09/29	14:23 01	1073.9	09.9	329.3	0000.0	154.1	0242.2	10.4	171.5			
09/29	14:38 01	1036.1	09.9	329.3	0000.0	152.9	0258.3	10.6	172.3			
09/29	14:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	1061.1	09.9	329.7	0000.0	153.9	0252.0	10.5	171.8	GOOD HOUR		
09/29	15:08 01	1060.7	09.6	328.7	0000.0	154.9	0275.3	09.9	172.3			
09/29	15:23 01	1019.4	10.0	328.7	0000.0	154.7	0263.5	10.3	171.5			
09/29	15:38 01	1046.7	10.0	328.7	0000.0	155.2	0277.4	10.4	171.7			
09/29	15:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	1042.3	09.9	328.7	0000.0	154.9	0272.1	10.2	171.8	GOOD HOUR		
09/29	16:08 01	0984.9	09.6	330.3	0000.0	154.9	0285.6	10.7	170.7			
09/29	16:23 01	1028.1	09.3	330.5	0000.0	153.0	0320.8	10.3	170.1			
09/29	16:38 01	0950.3	10.3	334.0	0000.0	154.3	0318.5	10.3	171.3			
09/29	16:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	0987.8	09.7	331.6	0000.0	154.1	0308.3	10.4	170.7	GOOD HOUR		
09/29	17:08 01	1023.4	09.1	331.2	0000.0	152.9	0254.0	10.5	170.1			
09/29	17:23 01	0968.9	09.5	330.8	0000.0	152.5	0203.5	09.9	169.6			
09/29	17:38 01	0913.7	09.9	330.8	0000.0	153.2	0180.7	10.4	170.0			
09/29	17:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	0968.7	09.5	330.9	0000.0	152.9	0212.7	10.3	169.9	GOOD HOUR		
09/29	18:08 01	0857.2	10.3	330.6	0000.0	153.3	0148.8	10.6	170.1			
09/29	18:23 01	1033.4	09.2	332.2	0000.0	153.6	0186.2	10.6	170.0			
09/29	18:38 01	1068.7	09.2	332.8	0000.0	154.2	0200.2	10.3	170.1			
09/29	18:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	0986.4	09.6	331.9	0000.0	153.7	0178.4	10.5	170.1	GOOD HOUR		
09/29	19:08 01	1295.4	08.1	333.3	0000.0	154.0	0302.6	09.4	169.5			
09/29	19:23 01	1137.8	09.3	331.9	0000.0	153.8	0272.4	09.9	170.3			
09/29	19:38 01	0964.9	10.7	335.1	0000.0	153.9	0222.0	11.6	171.4			
09/29	19:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	1132.7	09.4	333.4	0000.0	153.9	0265.7	10.3	170.4	GOOD HOUR		
09/29	20:08 01	1267.5	08.8	338.7	0000.0	155.8	0321.7	09.8	172.4			
09/29	20:23 01	1386.5	08.5	340.9	0000.0	156.3	0363.5	09.7	172.8			
09/29	20:38 01	1542.8	07.9	339.8	0000.0	157.1	0368.9	09.2	171.7			
09/29	20:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	1398.9	08.4	339.8	0000.0	156.4	0351.4	09.6	172.3	GOOD HOUR		
09/29	21:08 01	1428.4	08.9	336.3	0000.0	155.9	0317.2	10.1	171.1			
09/29	21:23 01	1445.7	08.9	336.4	0000.0	156.3	0327.4	10.1	171.3			
09/29	21:38 01	1476.3	08.9	335.8	0000.0	154.4	0329.0	10.2	170.5			
09/29	21:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0			
	AVERAGE	1450.1	08.9	336.2	0000.0	155.5	0324.5	10.1	171.0	GOOD HOUR		

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EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 237)
PAGE NUMBER
TYPING GUIDE SHEET
BOTTOM OF IMAGE AREA
OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
DROPPED HEAD; BEGIN SECTIONS HERE
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TOP OF IMAGE AREA

09/29	22:08	01	1495.6	09.1	331.3	0000.0	164.7	0438.9	10.1	189.7	
09/29	22:23	01	1493.5	08.8	331.5	0000.0	156.1	0284.5	10.1	175.5	
09/29	22:38	01	1449.7	08.9	331.9	0000.0	154.6	0232.1	10.4	172.6	
09/29	22:53	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1479.6	08.9	331.6	0000.0	158.5	0318.5	10.2	179.3	GOOD HOUR
09/29	23:08	01	1267.5	14.9	332.0	0000.0	153.0	0142.7	11.2	170.4	
09/29	23:23	01	1290.1	10.2	331.7	0000.0	152.2	0141.8	11.1	169.3	
09/29	23:38	01	1183.7	09.6	330.9	0000.0	152.9	0129.0	11.5	168.4	
09/29	23:53	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1247.1	11.6	331.5	0000.0	152.7	0137.8	11.3	169.4	GOOD HOUR
		00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	BAD HOUR

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:48	10.0E+07	17.5E+05	37.5E-01	00.0E-02	63.1E-02	100	83.2	GOOD HOUR
01:48	10.0E+07	18.2E+05	33.3E-01	00.0E-02	49.4E-02	100	85.2	GOOD HOUR
02:48	10.0E+07	16.9E+05	34.4E-01	00.0E-02	55.3E-02	100	83.9	GOOD HOUR
03:48	97.7E+06	16.6E+05	35.7E-01	00.0E-02	10.5E-01	100	70.5	GOOD HOUR
04:48	93.0E+06	16.0E+05	35.5E-01	00.0E-02	68.8E-02	100	80.6	GOOD HOUR
05:48	97.7E+06	18.0E+05	36.6E-01	00.0E-02	64.7E-02	100	82.3	GOOD HOUR
06:48	11.2E+07	18.9E+05	42.7E-01	00.0E-02	93.1E-02	100	78.2	GOOD HOUR
07:48	11.4E+07	19.9E+05	41.9E-01	00.0E-02	85.6E-02	100	79.6	GOOD HOUR
08:48	10.6E+07	17.6E+05	44.2E-01	00.0E-02	89.1E-02	100	79.8	GOOD HOUR
10:53	10.6E+07	18.1E+05	39.3E-01	00.0E-02	68.0E-02	100	82.7	GOOD HOUR
11:53	10.6E+07	18.0E+05	38.6E-01	00.0E-02	81.1E-02	100	79.0	GOOD HOUR
12:53	11.2E+07	18.4E+05	35.6E-01	00.0E-02	62.1E-02	100	82.6	GOOD HOUR
13:53	11.5E+07	19.4E+05	35.1E-01	00.0E-02	89.8E-02	100	74.4	GOOD HOUR
14:53	99.1E+06	18.5E+05	32.9E-01	00.0E-02	82.3E-02	100	75.0	GOOD HOUR
15:53	10.1E+07	18.9E+05	32.2E-01	00.0E-02	86.6E-02	100	73.1	GOOD HOUR
16:53	99.1E+06	18.2E+05	30.1E-01	00.0E-02	10.0E-01	100	66.7	GOOD HOUR
17:53	99.1E+06	17.8E+05	28.9E-01	00.0E-02	68.2E-02	100	76.5	GOOD HOUR
18:53	96.9E+06	17.6E+05	29.7E-01	00.0E-02	58.4E-02	100	80.3	GOOD HOUR
19:53	10.1E+07	18.0E+05	33.5E-01	00.0E-02	85.4E-02	100	74.5	GOOD HOUR
20:53	10.8E+07	17.7E+05	38.1E-01	00.0E-02	10.6E-01	100	72.3	GOOD HOUR
21:53	10.6E+07	18.1E+05	41.2E-01	00.0E-02	10.3E-01	100	75.1	GOOD HOUR
22:53	10.6E+07	18.1E+05	42.1E-01	00.0E-02	10.1E-01	100	75.9	GOOD HOUR
23:53	94.7E+06	20.8E+05	45.5E-01	00.0E-02	48.7E-02	100	89.3	GOOD HOUR
	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
		AVERAGE	36.7E-01		78.9E-02		78.3	

GOOD DAY

PROGRAM CELDA

CELANESE FGD SYSTEM
CUMBERLAND, MARYLAND

ENTER DATE OF TEST
? "SEPT 30,1980"

SEPT 30,1980

ENTER FILE NAME
? IN9300
ENTER OUTPUT FILE NAME
? OUT9300
ENTER PROCESS DATA FILE NAME
? P9300
ENTER HEAT INPUT CONTENT
? 12500

TIME	COAL RATE LB/HR	STM RATE LB/HR	COAL TYPE	UPSET CON
0100	08812	00000	BT	NO
0200	09341	00000	BT	NO
0300	10046	00000	BT	NO
0400	10046	00000	BT	NO
0500	09341	00000	BT	NO
0600	09341	00000	BT	NO
0700	08460	00000	BT	NO
0800	07579	00000	BT	NO
0900	09755	00000	BT	NO
1000	08817	00000	BT	NO
1100	07691	00000	BT	NO
1200	09567	00000	BT	NO
1300	09755	00000	BT	NO

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TOP OF IMAGE AREA
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
3/8"
PAGE NUMBER
EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 2871)
TYPING GUIDE SHEET

1400	12194	00000	BT	NO
1500	09943	00000	BT	NO
1600	08817	00000	BT	NO
1700	09004	00000	BT	NO
1800	07691	00000	BT	NO
1900	09192	00000	BT	NO
2000	09755	00000	BT	NO
2100	09755	00000	BT	NO
2200	09755	00000	BT	NO
2300	09943	00000	BT	NO
2400	10318	00000	BT	NO

DATE	TIME	CO	SO2 INLET PPM	O2%	TEMP F	SO2 INTER PPM	TEMP F	SO2 OUTLET PPM	O2%	TEMP F	
09/30	00:08	01	1179.7	15.1	331.5	0000.0	151.5	0144.9	11.6	168.0	
09/30	00:23	01	1148.4	10.8	332.4	0000.0	151.5	0127.0	11.6	168.7	
09/30	00:38	01	1131.2	10.1	333.7	0000.0	152.7	0126.9	12.0	169.8	
09/30	00:53	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1153.1	12.0	332.5	0000.0	151.9	0132.9	11.7	168.8	GOOD HOUR
09/30	01:08	01	1146.5	14.5	336.9	0000.0	153.6	0153.3	11.7	170.7	
09/30	01:23	01	1196.3	10.0	334.3	0000.0	152.4	0118.0	11.7	169.0	
09/30	01:38	01	1258.2	09.4	337.5	0000.0	154.3	0180.2	11.5	170.6	
09/30	01:53	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1200.3	11.3	336.2	0000.0	153.4	0150.5	11.6	170.1	GOOD HOUR
09/30	02:08	01	1189.7	09.7	338.8	0000.0	153.3	0204.6	12.2	170.1	
09/30	02:23	01	1324.7	10.4	337.7	0000.0	152.2	0202.3	12.1	169.0	
09/30	02:38	01	1379.2	10.5	337.6	0000.0	152.3	0206.8	11.6	168.3	
09/30	02:53	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1297.9	10.2	338.0	0000.0	152.6	0204.6	12.0	169.1	GOOD HOUR
09/30	03:08	01	1443.7	10.6	336.8	0000.0	151.5	0219.5	11.3	166.6	
09/30	03:23	01	1484.9	10.6	336.1	0000.0	151.5	0244.9	11.3	166.9	
09/30	03:38	01	1455.7	10.6	330.5	0000.0	163.9	0490.0	11.4	190.2	
09/30	03:53	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0	
		AVERAGE	1461.4	10.6	334.5	0000.0	155.6	0318.1	11.3	174.6	GOOD HOUR
09/30	04:08	01	1399.2	10.7	333.3	0000.0	155.2	0295.3	11.6	174.7	

09/30	04:23 01	1427.7	10.7	334.5	0000.0	154.9	0293.8	11.4	174.2		
09/30	04:38 01	1467.0	16.7	334.8	0000.0	211.7	0889.4	11.4	209.9		
09/30	04:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1431.3	12.7	334.2	0000.0	173.9	0492.8	11.5	186.3	GOOD	HOUR
09/30	05:08 01	1326.7	10.8	334.8	0000.0	164.3	0605.9	11.8	195.5		
09/30	05:23 01	1324.7	10.8	337.4	0000.0	159.7	0351.4	12.3	185.1		
09/30	05:38 01	1277.5	10.9	337.9	0000.0	158.0	0325.9	12.2	180.7		
09/30	05:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1309.6	10.8	336.7	0000.0	160.7	0427.7	12.1	187.1	GOOD	HOUR
09/30	06:08 01	1239.7	10.9	337.9	0000.0	157.6	0289.8	11.8	177.9		
09/30	06:23 01	1247.5	10.9	336.8	0000.0	157.4	0295.0	10.9	176.9		
09/30	06:38 01	1242.2	10.9	336.0	0000.0	157.0	0291.3	10.9	176.6		
09/30	06:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1243.1	10.9	336.9	0000.0	157.3	0292.0	11.2	177.1	GOOD	HOUR
09/30	07:08 01	1211.6	11.0	334.0	0000.0	155.7	0310.8	10.4	175.2		
09/30	07:23 01	1128.5	11.0	333.8	0000.0	156.3	0272.3	11.4	174.5		
09/30	07:38 01	1077.3	11.1	333.4	0000.0	155.7	0247.0	11.9	174.3		
09/30	07:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1139.1	11.0	333.7	0000.0	155.9	0276.7	11.2	174.7	GOOD	HOUR
09/30	08:08 01	1120.5	11.1	333.6	0000.0	156.2	0271.7	11.7	174.2		
09/30	08:14 01	1224.3	10.1	332.0	0000.0	155.0	0270.7	11.5	172.7		
09/30	08:38 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	08:53 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
	AVERAGE	1172.4	10.6	332.8	0000.0	155.6	0271.2	11.6	173.5	GOOD	HOUR
09/30	09:01 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	09:16 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	09:31 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	09:46 01	1452.4	09.4	335.0	0000.0	154.0	0282.4	10.1	171.9		
	AVERAGE	1452.4	09.4	335.0	0000.0	154.0	0282.4	10.1	171.9	BAD	HOUR
09/30	10:01 01	1474.3	08.9	335.9	0000.0	153.6	0285.4	09.5	172.0		
09/30	10:16 01	1369.9	10.0	335.8	0000.0	151.7	0241.0	10.4	170.1		
09/30	10:31 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	10:46 01	1201.0	10.9	334.1	0000.0	151.5	0184.9	11.5	170.2		
	AVERAGE	1348.4	09.9	335.3	0000.0	152.3	0237.1	10.5	170.8	GOOD	HOUR
09/30	11:01 01	1174.4	11.2	334.2	0000.0	152.0	0164.7	11.8	170.7		
09/30	11:16 01	1172.4	11.1	334.0	0000.0	150.9	0155.5	11.8	170.1		
09/30	11:31 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	11:46 01	1270.2	10.5	326.5	0000.0	185.5	0366.1	11.0	191.9		
	AVERAGE	1205.7	10.9	331.6	0000.0	162.8	0228.8	11.5	177.6	GOOD	HOUR
09/30	12:01 01	1307.4	10.6	328.7	0000.0	170.5	0440.5	10.8	197.9		
09/30	12:16 01	1441.7	08.7	330.0	0000.0	156.5	0257.9	10.1	180.1		
09/30	12:31 00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		

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3/8"
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EPA Form 2350-4 (4-80)
(PREVIOUSLY CIN. EPA FORM 267)
☆ U.S. GOVERNMENT PRINTING OFFICE: 1981—758-001
TYPING GUIDE SHEET

09/30	12:46	01	1627.9	07.2	337.2	0000.0	157.6	0356.4	07.3	178.3		
		AVERAGE	1459.0	08.8	332.0	0000.0	161.5	0351.6	09.4	185.4	GOOD	HOUR
09/30	13:01	01	1878.6	05.0	338.1	0000.0	156.5	0383.4	05.7	174.1		
09/30	13:16	01	1157.1	11.4	330.7	0000.0	154.1	0201.4	10.3	172.3		
09/30	13:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	13:46	01	1513.5	07.6	336.3	0000.0	157.6	0247.4	07.7	173.8		
		AVERAGE	1516.4	08.0	335.0	0000.0	156.1	0277.4	07.9	173.4	GOOD	HOUR
09/30	14:01	01	1767.6	06.2	338.1	0000.0	156.3	0322.1	06.2	172.7		
09/30	14:16	01	1803.5	05.4	340.4	0000.0	156.6	0351.7	06.0	173.0		
09/30	14:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	14:46	01	1855.4	04.2	339.0	0000.0	157.9	0353.6	05.2	173.7		
		AVERAGE	1808.8	05.3	339.2	0000.0	156.9	0342.5	05.8	173.1	GOOD	HOUR
09/30	15:01	01	1791.5	05.2	339.3	0000.0	156.6	0372.9	04.6	174.2		
09/30	15:16	01	1532.8	08.5	327.8	0000.0	154.6	0303.2	06.9	171.8		
09/30	15:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	15:46	01	1242.2	09.7	332.3	0000.0	152.4	0154.5	11.0	170.6		
		AVERAGE	1522.2	07.8	333.1	0000.0	154.5	0276.9	07.5	172.2	GOOD	HOUR
09/30	16:01	01	1268.2	10.3	329.9	0000.0	152.2	0185.4	09.9	170.0		
09/30	16:16	01	1264.2	09.9	329.8	0000.0	151.6	0187.7	09.8	169.1		
09/30	16:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	16:46	01	1101.9	10.9	329.9	0000.0	150.8	0180.3	10.5	169.7		
		AVERAGE	1211.4	10.4	329.9	0000.0	151.5	0184.5	10.1	169.6	GOOD	HOUR
09/30	17:01	01	1096.6	10.8	330.6	0000.0	151.4	0175.8	10.8	170.5		
09/30	17:16	01	1028.1	11.4	330.8	0000.0	151.7	0176.4	11.3	172.0		
09/30	17:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	17:46	01	0998.8	11.4	331.3	0000.0	152.8	0169.7	11.1	172.8		
		AVERAGE	1041.2	11.2	330.9	0000.0	152.0	0174.0	11.1	171.8	GOOD	HOUR
09/30	18:01	01	0929.7	11.8	331.1	0000.0	152.6	0150.4	11.7	170.7		
09/30	18:16	01	0967.6	11.6	330.0	0000.0	152.9	0135.4	11.4	171.2		
09/30	18:31	00	0000.0	00.0	000.0	0000.0	000.7	0000.0	00.0	000.0		
09/30	18:46	01	1164.4	09.6	331.9	0000.0	154.2	0163.5	09.8	171.2		
		AVERAGE	1020.6	11.0	331.0	0000.0	153.5	0149.8	11.0	171.0	GOOD	HOUR
09/30	19:01	01	1153.1	09.9	331.5	0000.0	153.9	0156.9	09.7	170.5		
09/30	19:16	01	1058.7	00.0	326.4	0000.0	162.4	0245.5	00.0	184.4		
09/30	19:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	19:46	01	1453.7	10.4	328.8	0000.0	156.7	0220.5	10.2	174.4		
		AVERAGE	1221.8	06.8	328.9	0000.0	157.7	0207.6	06.6	176.4	GOOD	HOUR
09/30	20:01	01	1530.2	07.3	331.8	0000.0	156.0	0229.3	08.8	173.5		
09/30	20:16	01	1359.9	06.7	330.7	0000.0	155.0	0209.1	08.6	171.7		
09/30	20:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	20:46	01	1352.6	07.5	332.3	0000.0	156.0	0230.4	09.0	172.8		
		AVERAGE	1414.2	07.2	331.6	0000.0	155.7	0222.9	08.8	172.7	GOOD	HOUR

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(PREVIOUSLY CIN, EPA FORM 167)
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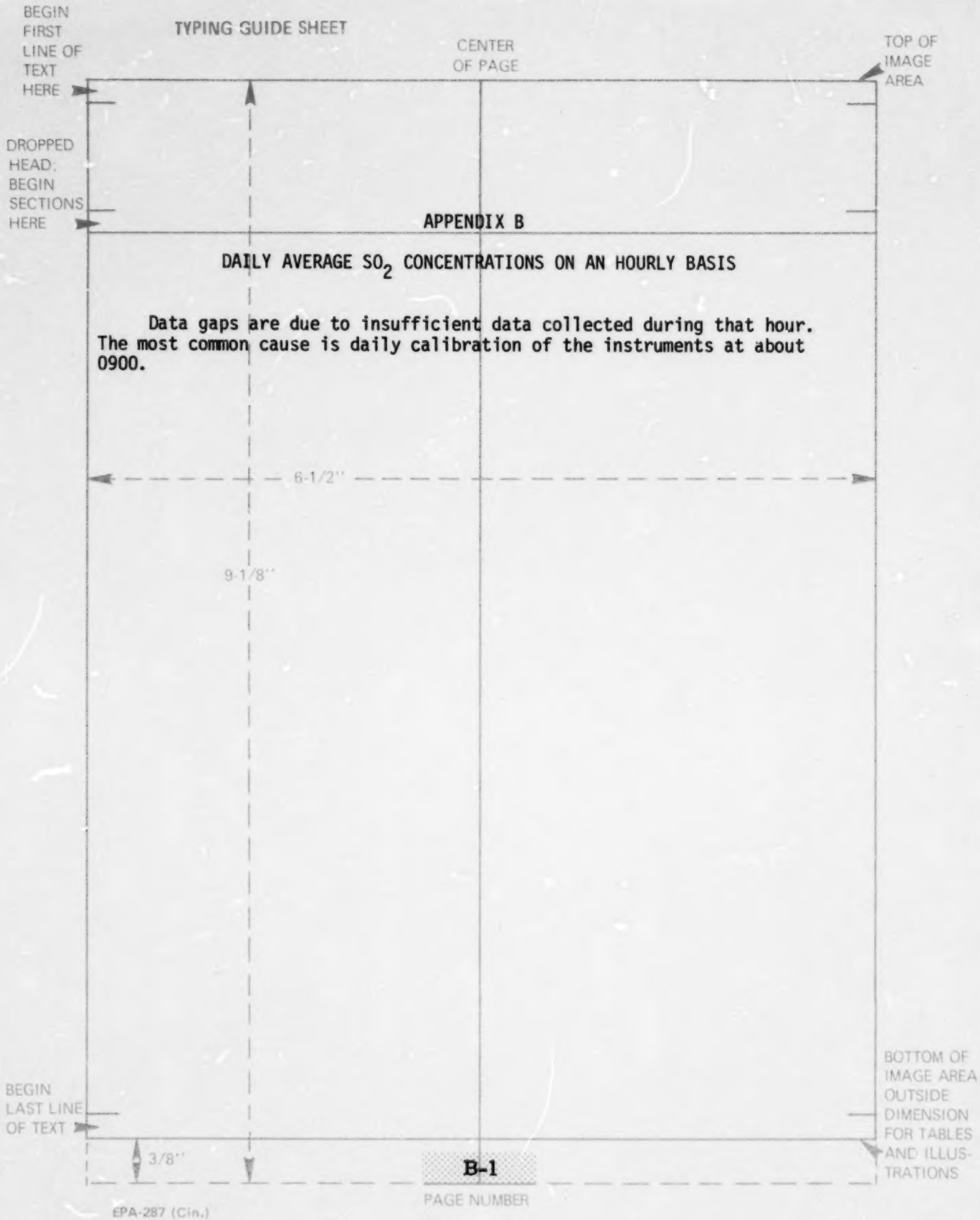
09/30	21:01	01	1529.5	07.8	334.0	0000.0	155.6	0245.9	09.4	172.1		
09/30	21:16	01	1201.0	06.7	335.7	0000.0	155.8	0255.2	08.9	173.6		
09/30	21:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	21:46	01	1379.9	09.0	334.0	0000.0	155.8	0270.5	10.0	172.7		
		AVERAGE	1370.1	07.8	334.6	0000.0	155.7	0257.2	09.4	172.8	GOOD HOUR	
09/30	22:01	01	1463.7	07.3	335.6	0000.0	155.6	0339.7	09.5	172.0		
09/30	22:16	01	1114.5	07.0	333.3	0000.0	155.5	0364.6	07.7	172.1		
09/30	22:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	22:46	01	1512.2	08.4	336.8	0000.0	157.1	0463.0	09.5	172.3		
		AVERAGE	1363.5	07.6	335.2	0000.0	156.1	0389.1	08.9	172.1	GOOD HOUR	
09/30	23:01	01	1431.7	06.6	335.9	0000.0	155.5	0517.0	07.5	172.1		
09/30	23:16	01	1545.6	07.1	335.2	0000.0	155.2	0611.5	09.2	171.8		
09/30	23:31	00	0000.0	00.0	000.0	0000.0	000.0	0000.0	00.0	000.0		
09/30	23:46	01	1471.0	14.9	333.9	0000.0	154.8	0794.7	08.6	172.2		
		AVERAGE	1482.8	09.5	335.0	0000.0	155.2	0641.1	08.4	172.0	GOOD HOUR	

TIME	HEAT INPUT BTU/HR	FLUE GAS FLOWRATE DSCF/HR	SO2 INLET EMISSIONS #/MMBTU	SO2 INTER EMISSIONS #/MMBTU	SO2 OUTLET EMISSIONS #/MMBTU	SO2 INTER EFFICIENCY PERCENT	SO2 OUTLET EFFICIENCY PERCENT	
00:53	11.0E+07	25.4E+05	44.1E-01	00.0E-02	49.4E-02	100	88.8	GOOD HOUR
01:53	11.7E+07	25.0E+05	42.6E-01	00.0E-02	55.3E-02	100	87.0	GOOD HOUR
02:53	12.6E+07	24.1E+05	41.3E-01	00.0E-02	78.0E-02	100	81.1	GOOD HOUR
03:53	12.6E+07	25.0E+05	48.3E-01	00.0E-02	11.3E-01	100	76.6	GOOD HOUR
04:53	11.7E+07	29.2E+05	59.5E-01	00.0E-02	17.8E-01	100	70.1	GOOD HOUR
05:53	11.7E+07	23.8E+05	44.3E-01	00.0E-02	16.6E-01	100	62.6	GOOD HOUR
06:53	10.6E+07	21.7E+05	42.4E-01	00.0E-02	10.3E-01	100	75.8	GOOD HOUR
07:53	94.7E+06	19.7E+05	39.3E-01	00.0E-02	97.5E-02	100	75.2	GOOD HOUR
08:53	12.2E+07	24.3E+05	38.8E-01	00.0E-02	99.4E-02	100	74.4	GOOD HOUR
09:46	00.0E-02	00.0E-02	00.0E-02	00.0E-02	00.0E-02	000	00.0	BAD HOUR
10:46	96.1E+06	18.0E+05	41.9E-01	00.0E-02	77.4E-02	100	81.5	GOOD HOUR
11:46	12.0E+07	24.6E+05	41.2E-01	00.0E-02	83.2E-02	100	79.8	GOOD HOUR
12:46	12.2E+07	20.7E+05	41.2E-01	00.0E-02	10.4E-01	100	74.7	GOOD HOUR
13:46	15.2E+07	24.3E+05	40.0E-01	00.0E-02	72.7E-02	100	81.8	GOOD HOUR
14:46	12.4E+07	16.3E+05	39.4E-01	00.0E-02	77.3E-02	100	80.4	GOOD HOUR
15:46	11.0E+07	17.3E+05	39.6E-01	00.0E-02	70.4E-02	100	82.2	GOOD HOUR
16:46	11.3E+07	21.9E+05	39.2E-01	00.0E-02	58.0E-02	100	85.2	GOOD HOUR
17:46	96.1E+06	20.3E+05	36.6E-01	00.0E-02	60.3E-02	100	83.5	GOOD HOUR
18:46	11.5E+07	23.8E+05	35.1E-01	00.0E-02	51.4E-02	100	85.4	GOOD HOUR
19:46	12.2E+07	17.7E+05	29.5E-01	00.0E-02	49.6E-02	100	83.2	GOOD HOUR
20:46	12.2E+07	18.2E+05	35.1E-01	00.0E-02	62.8E-02	100	82.1	GOOD HOUR
21:46	12.2E+07	19.2E+05	35.7E-01	00.0E-02	76.4E-02	100	78.6	GOOD HOUR
22:46	12.4E+07	19.1E+05	34.8E-01	00.0E-02	11.0E-01	100	68.3	GOOD HOUR
23:46	12.9E+07	23.3E+05	44.4E-01	00.0E-02	17.5E-01	100	60.6	GOOD HOUR
		AVERAGE	40.6E-01		89.9E-02		78.2	

GOOD DAY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APPENDIX B
DAILY AVERAGE SO_2 CONCENTRATIONS ON AN HOURLY BASIS
Data gaps are due to insufficient data collected during that hour. The most common cause is daily calibration of the instruments at about 0900.
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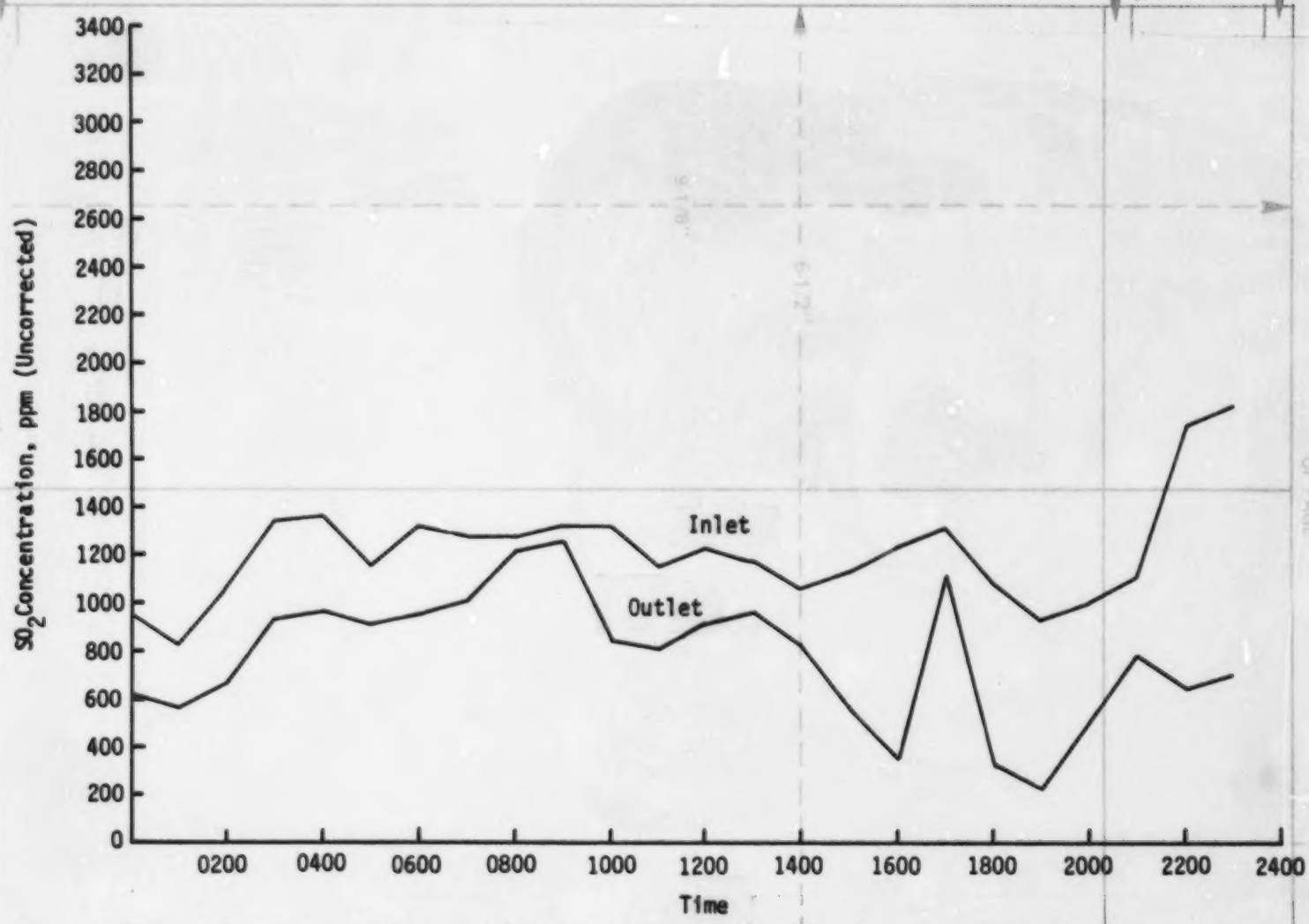

Figure B-1. SO_2 emissions at inlet and outlet of dry FGD system on August 28, 1980.

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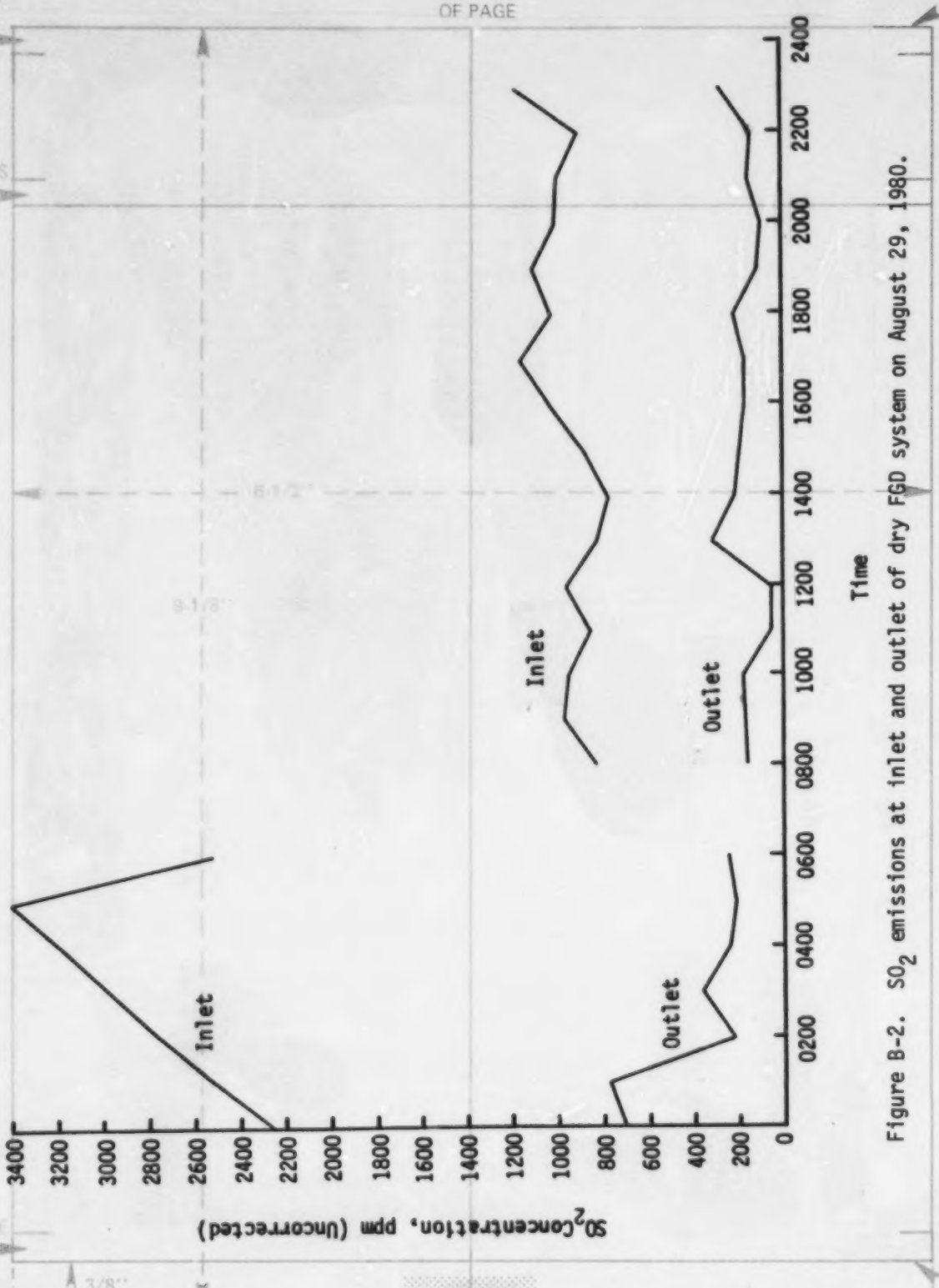

Figure B-2. SO_2 emissions at inlet and outlet of dry FGD system on August 29, 1980.

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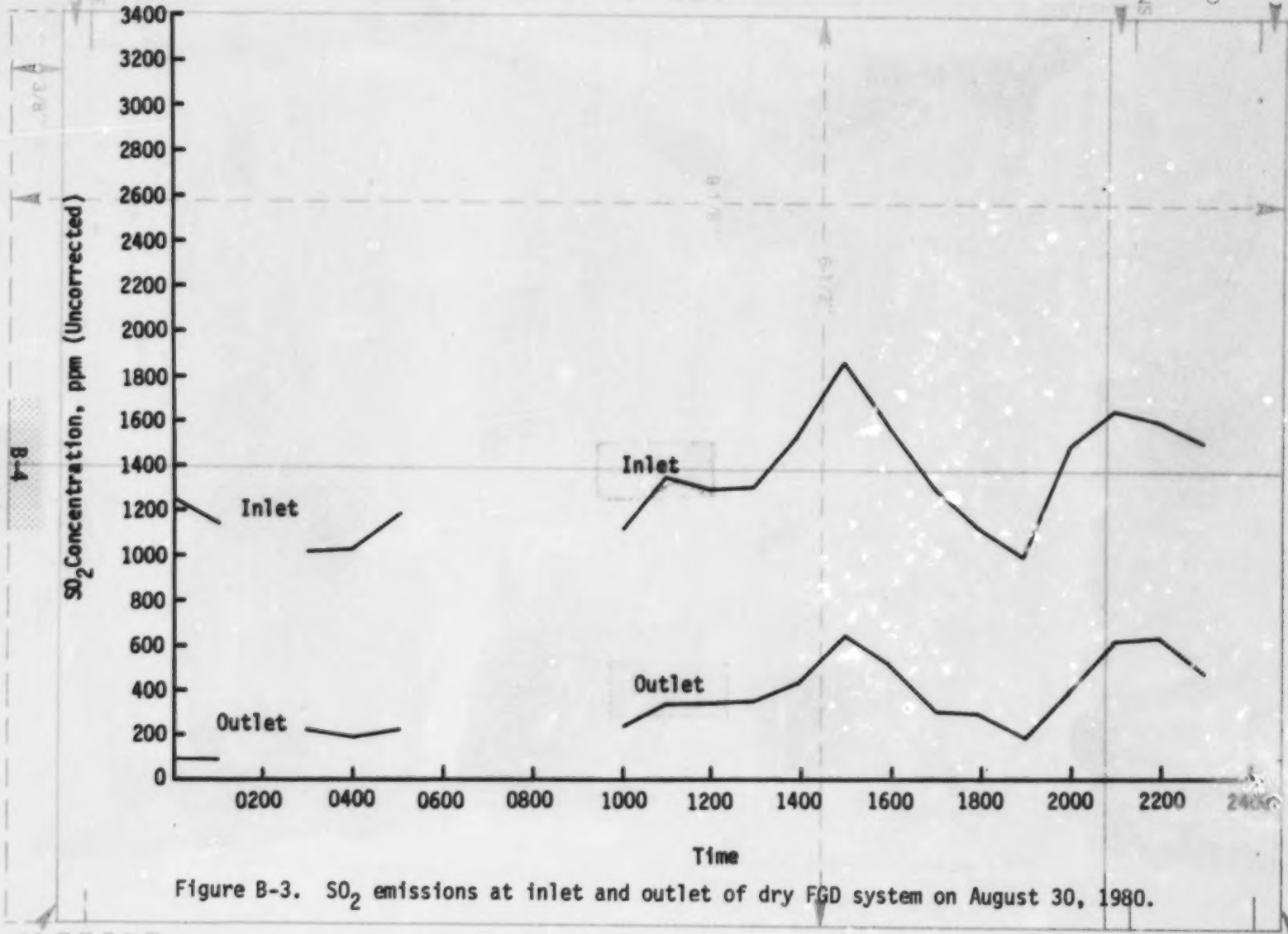

Figure B-3. SO_2 emissions at inlet and outlet of dry FGD system on August 30, 1980.

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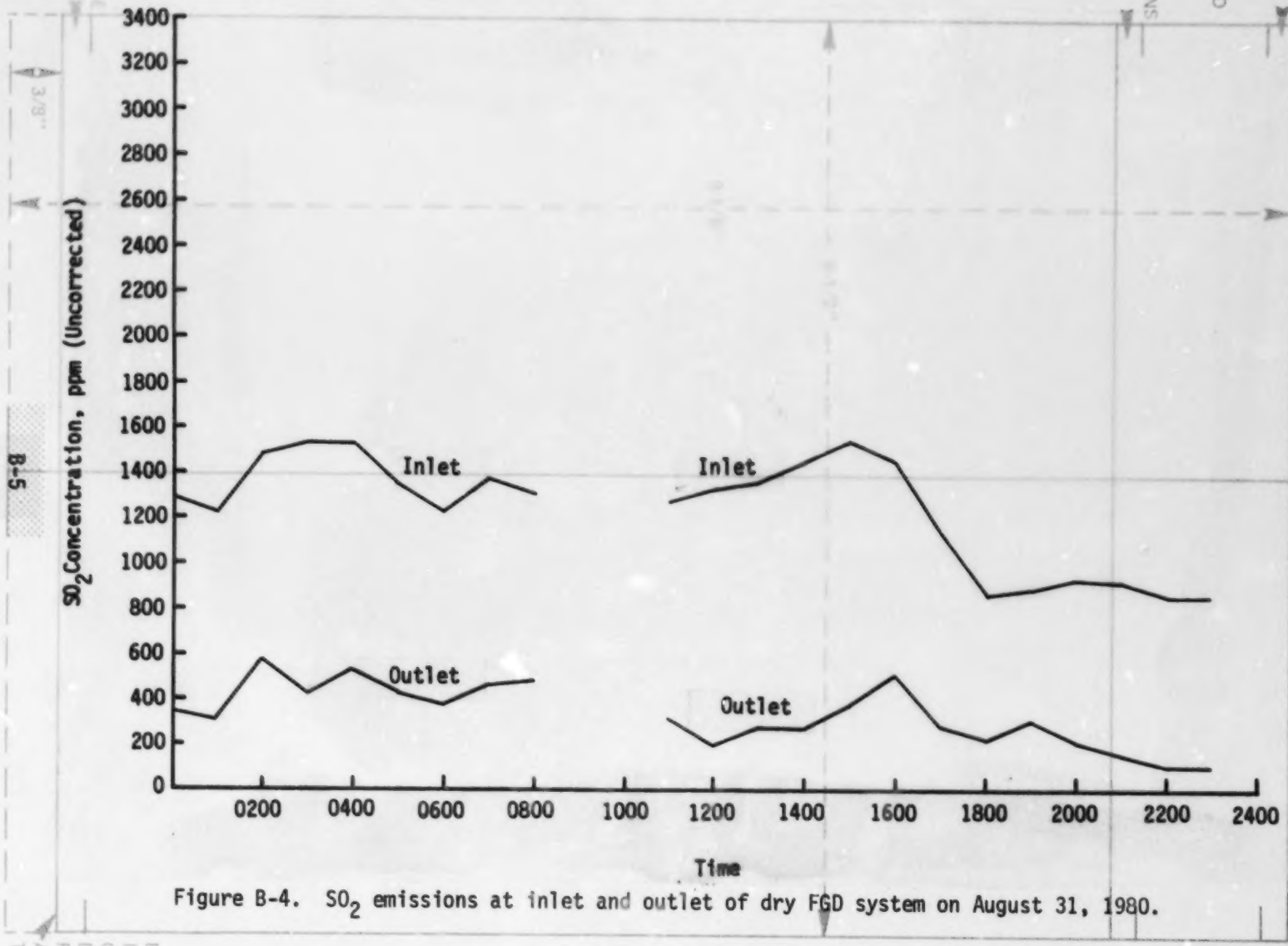

Figure B-4. SO_2 emissions at inlet and outlet of dry FGD system on August 31, 1980.

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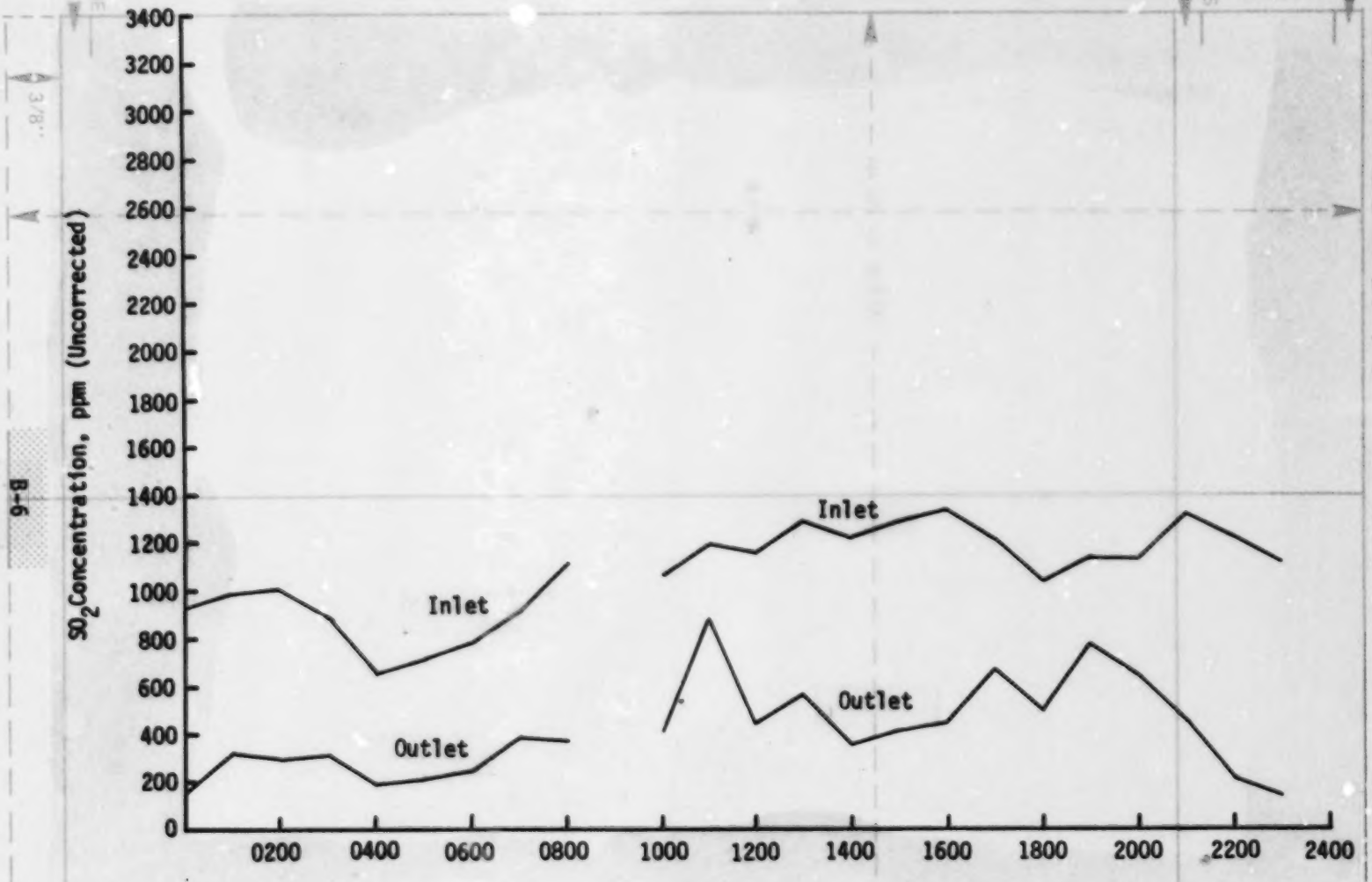

Figure B-5. SO_2 emissions at inlet and outlet of dry FGD system on September 1, 1980.

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Figure B-6. SO_2 emissions at inlet and outlet of dry FGD system on September 2, 1980.

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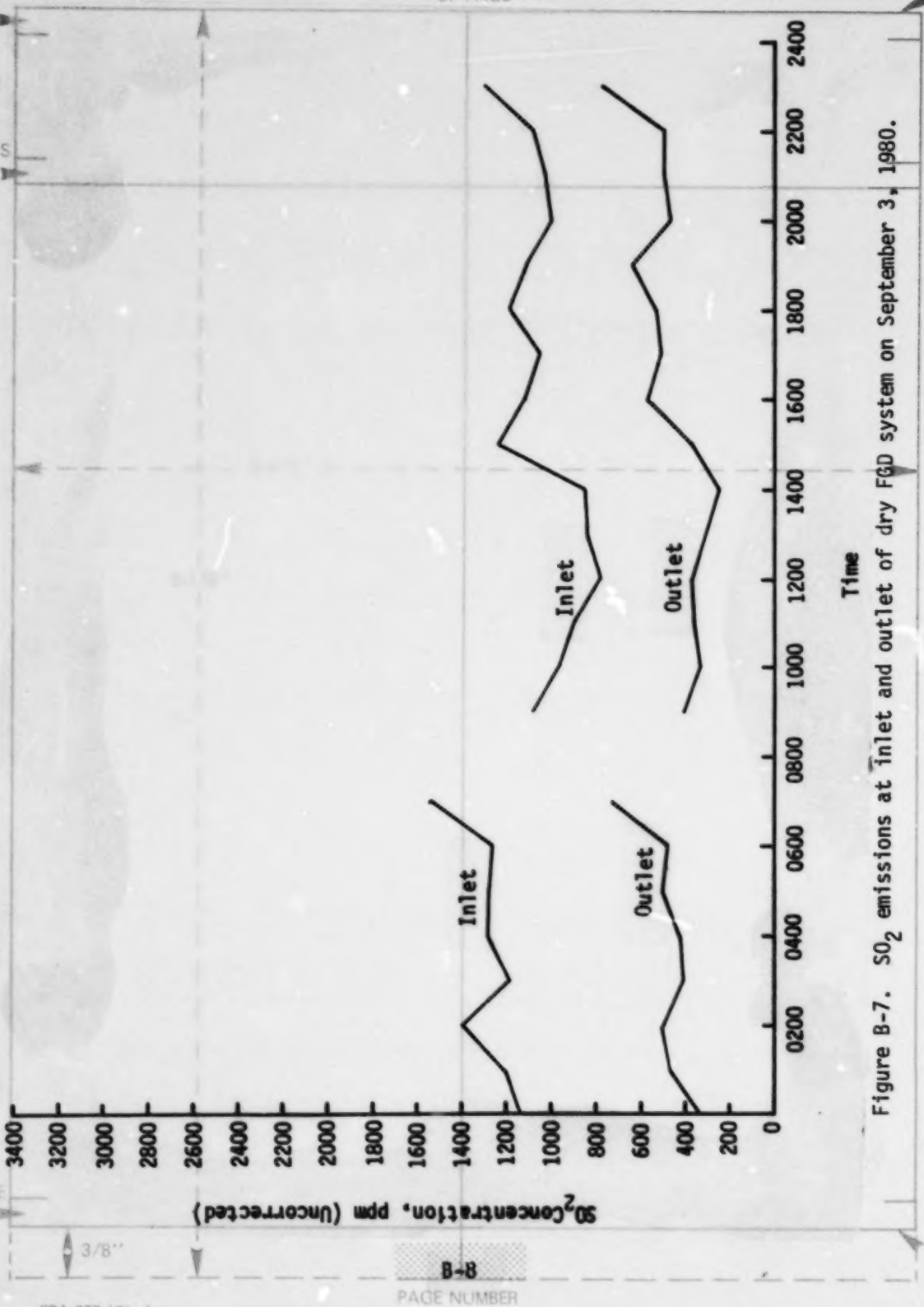

Figure B-7. SO_2 emissions at inlet and outlet of dry FGD system on September 3, 1980.

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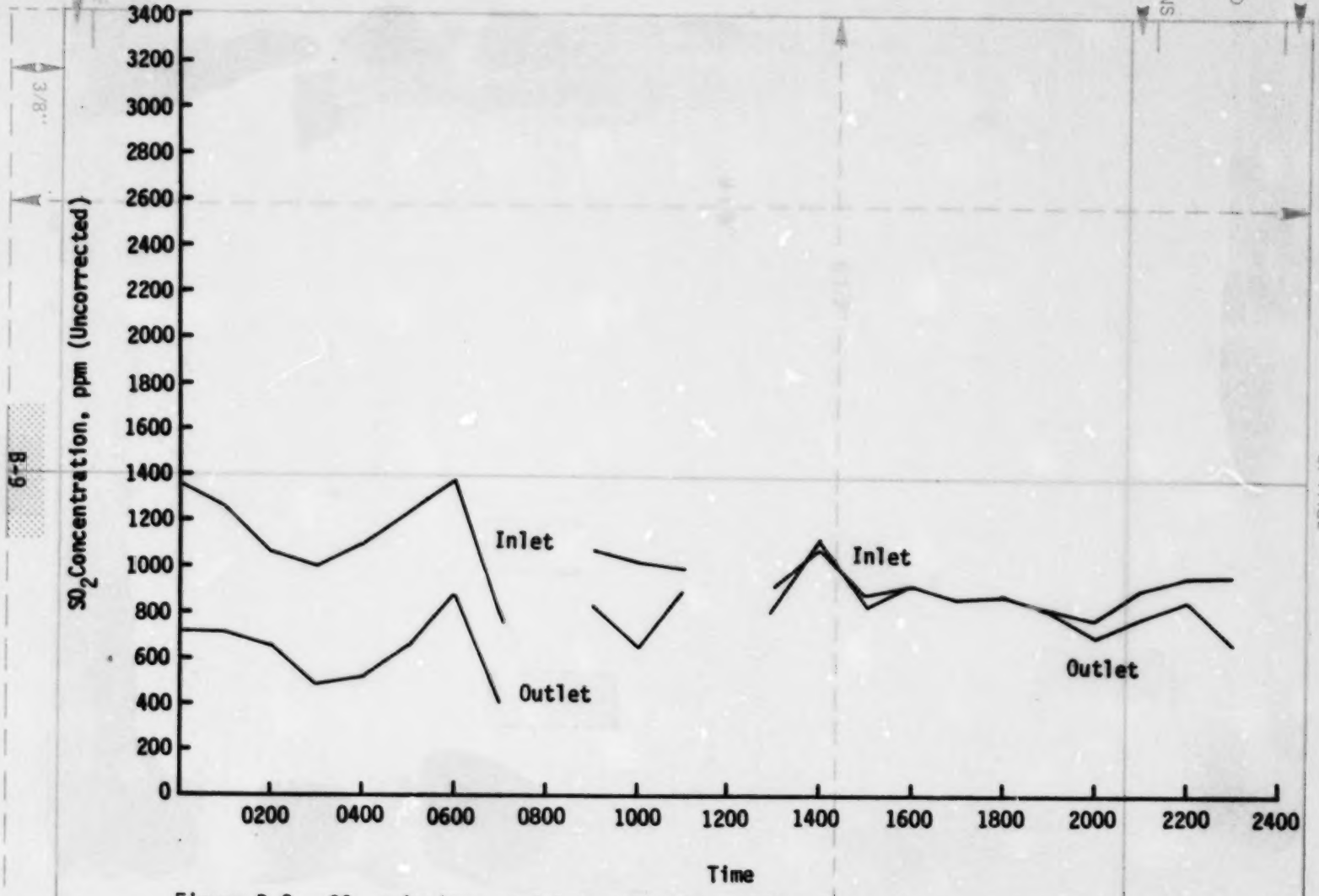

Figure B-8. SO_2 emissions at inlet and outlet of dry FGD system on September 4, 1980.

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Figure B-9. SO_2 emissions at inlet and outlet of dry FGD system on September 5, 1980.

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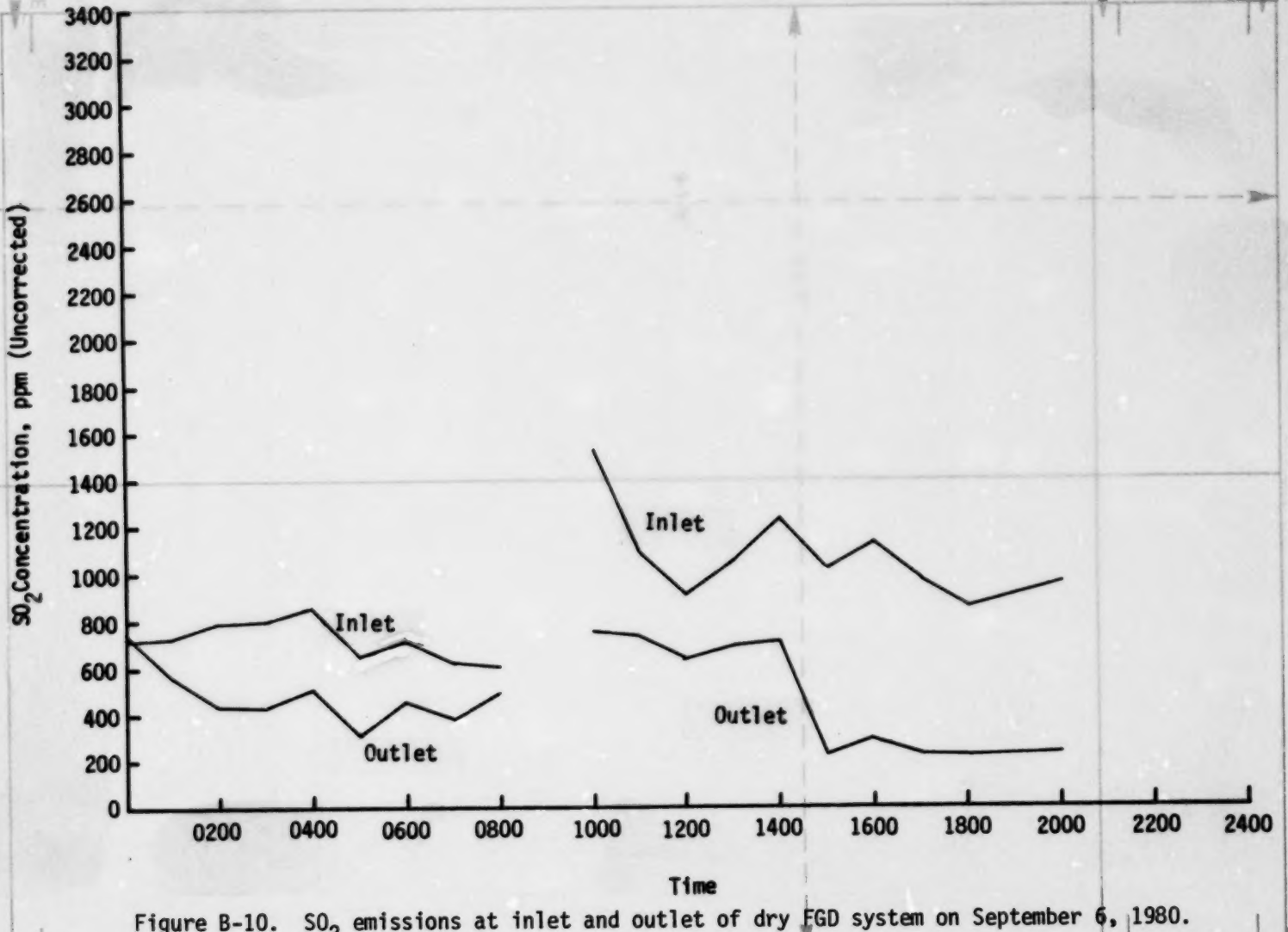

Figure B-10. SO_2 emissions at inlet and outlet of dry FGD system on September 6, 1980.

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Figure B-11. SO_2 emissions at inlet and outlet of dry FGD system on September 7, 1980.

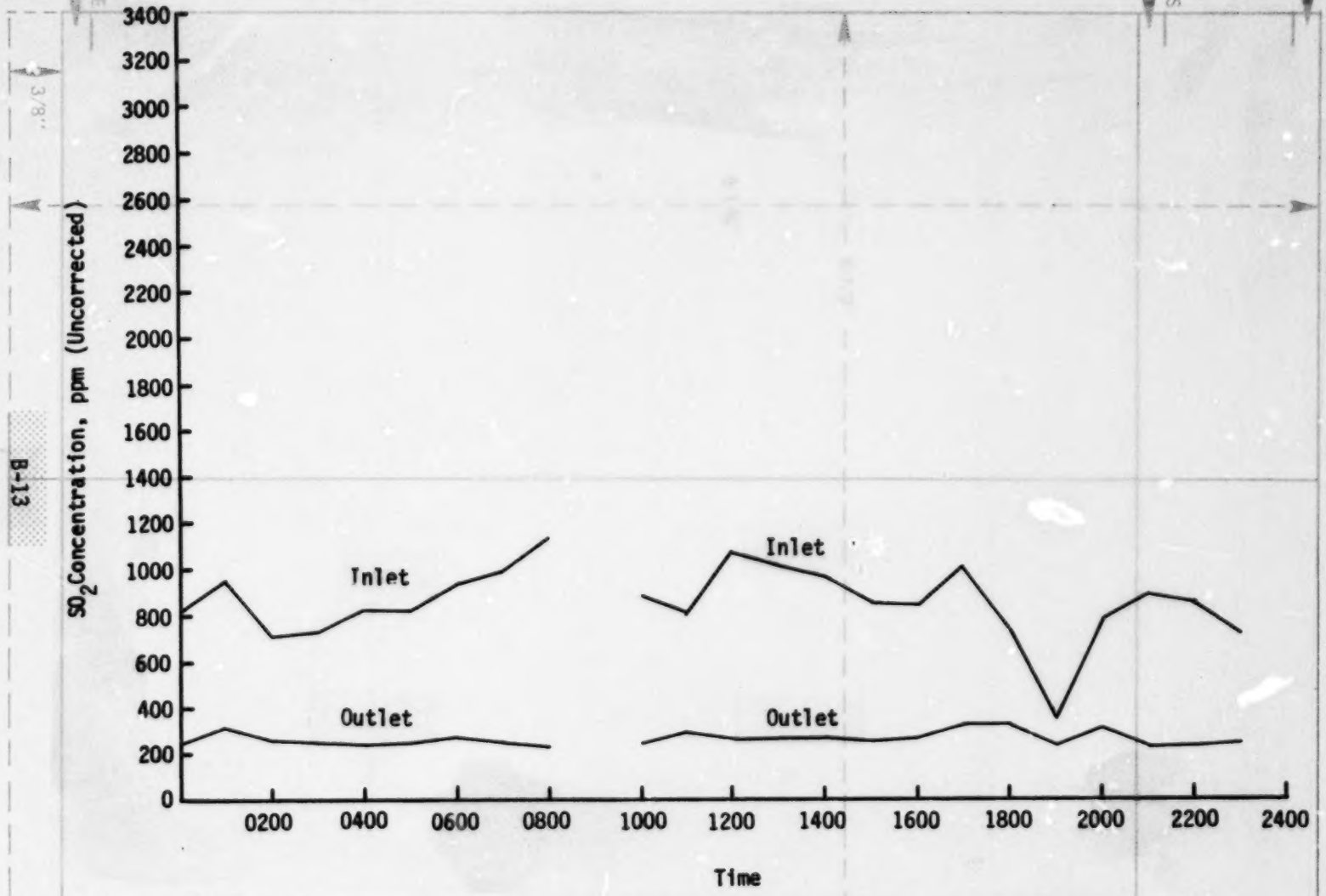

Figure B-12. SO_2 emissions at inlet and outlet of dry FGD system on September 8, 1980.

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Figure B-13. SO_2 emissions at inlet and outlet of dry FGD system on September 9, 1980.

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Figure B-14. SO_2 emissions at inlet and outlet of dry FGD system on September 10, 1980.

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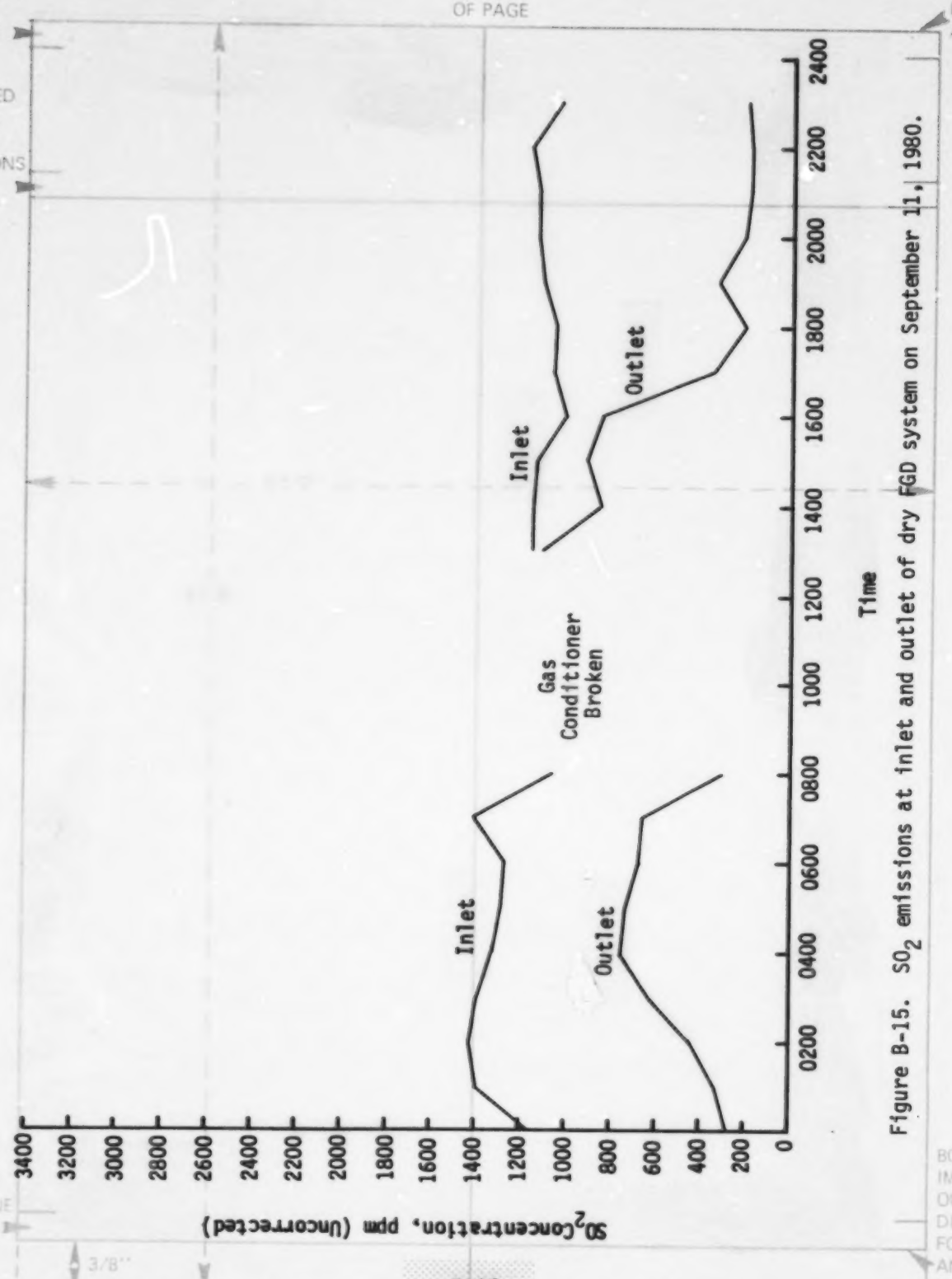

Figure B-15. SO_2 emissions at inlet and outlet of dry FGD system on September 11, 1980.

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Figure B-16. SO_2 emissions at inlet and outlet of dry FGD system on September 12, 1980.

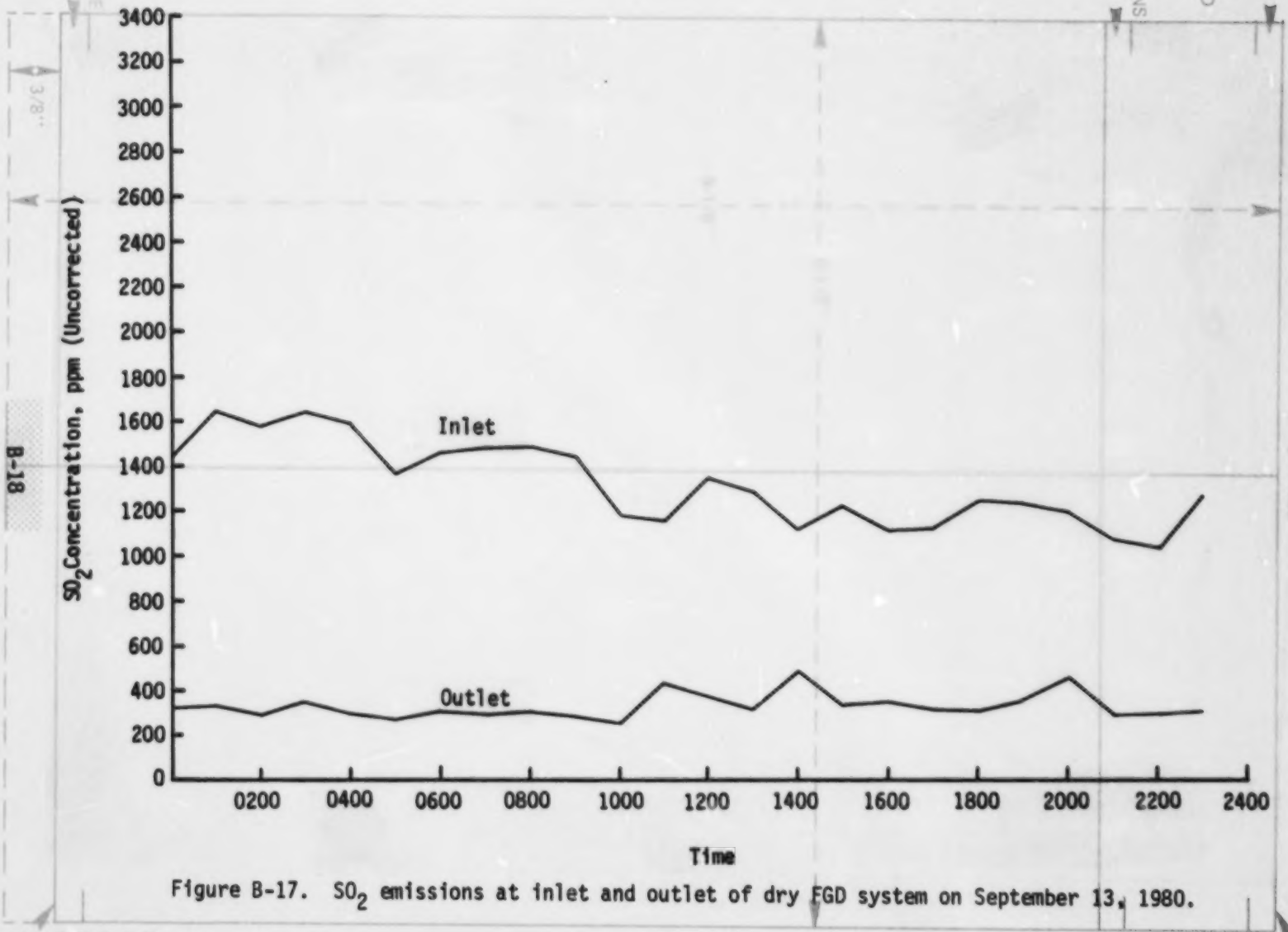

Figure B-17. SO_2 emissions at inlet and outlet of dry FGD system on September 13, 1980.

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Figure B-18. SO_2 emissions at inlet and outlet of dry FGD system on September 14, 1980.

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EPA-287 (Cin.)
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Figure B-19. SO_2 emissions at inlet and outlet of dry FGD system on September 15, 1980.

Figure B-20. SO_2 emissions at inlet and outlet of dry FGD system on September 16, 1980.

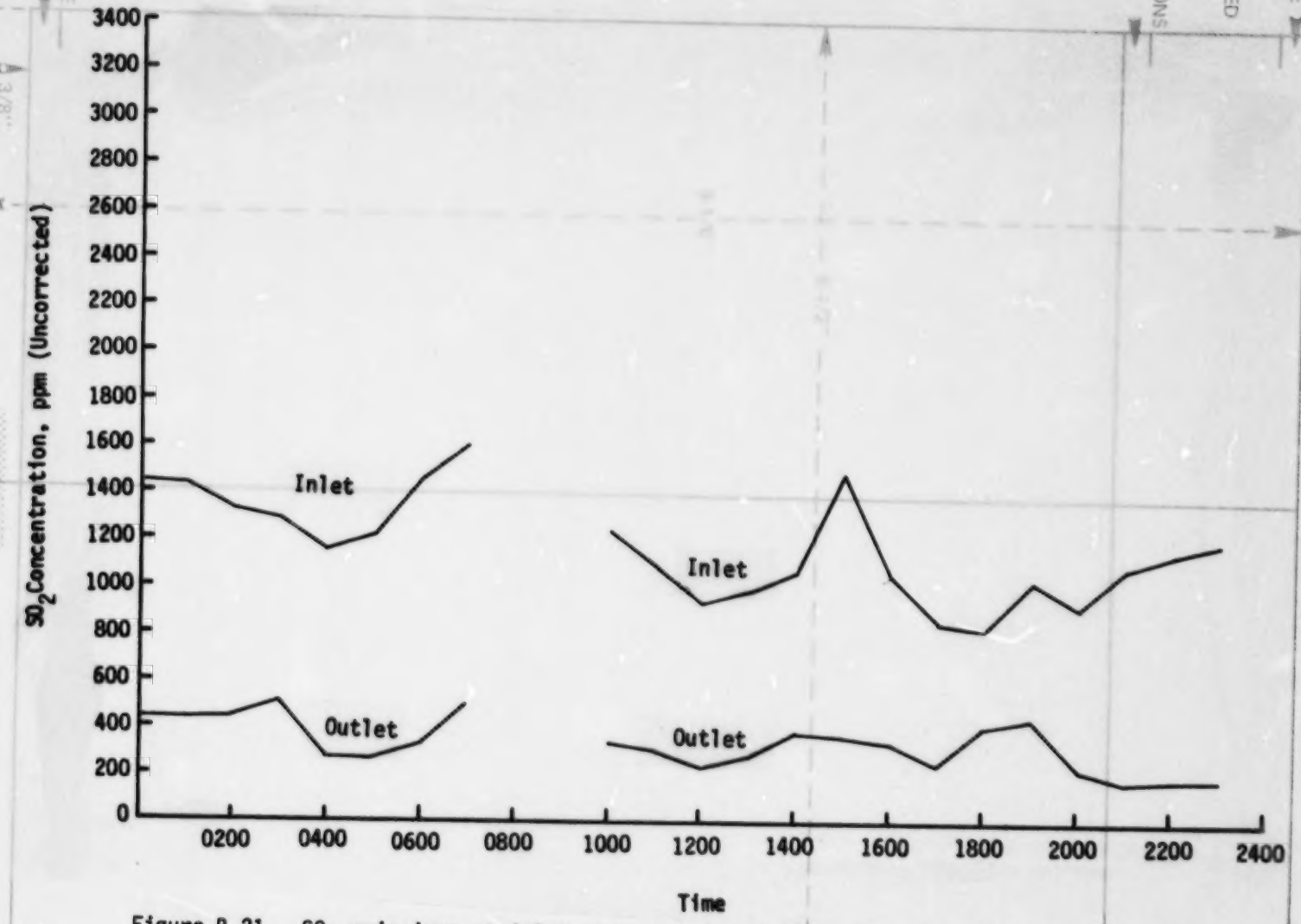

Figure B-21. SO_2 emissions at inlet and outlet of dry FGD system on September 17, 1980.

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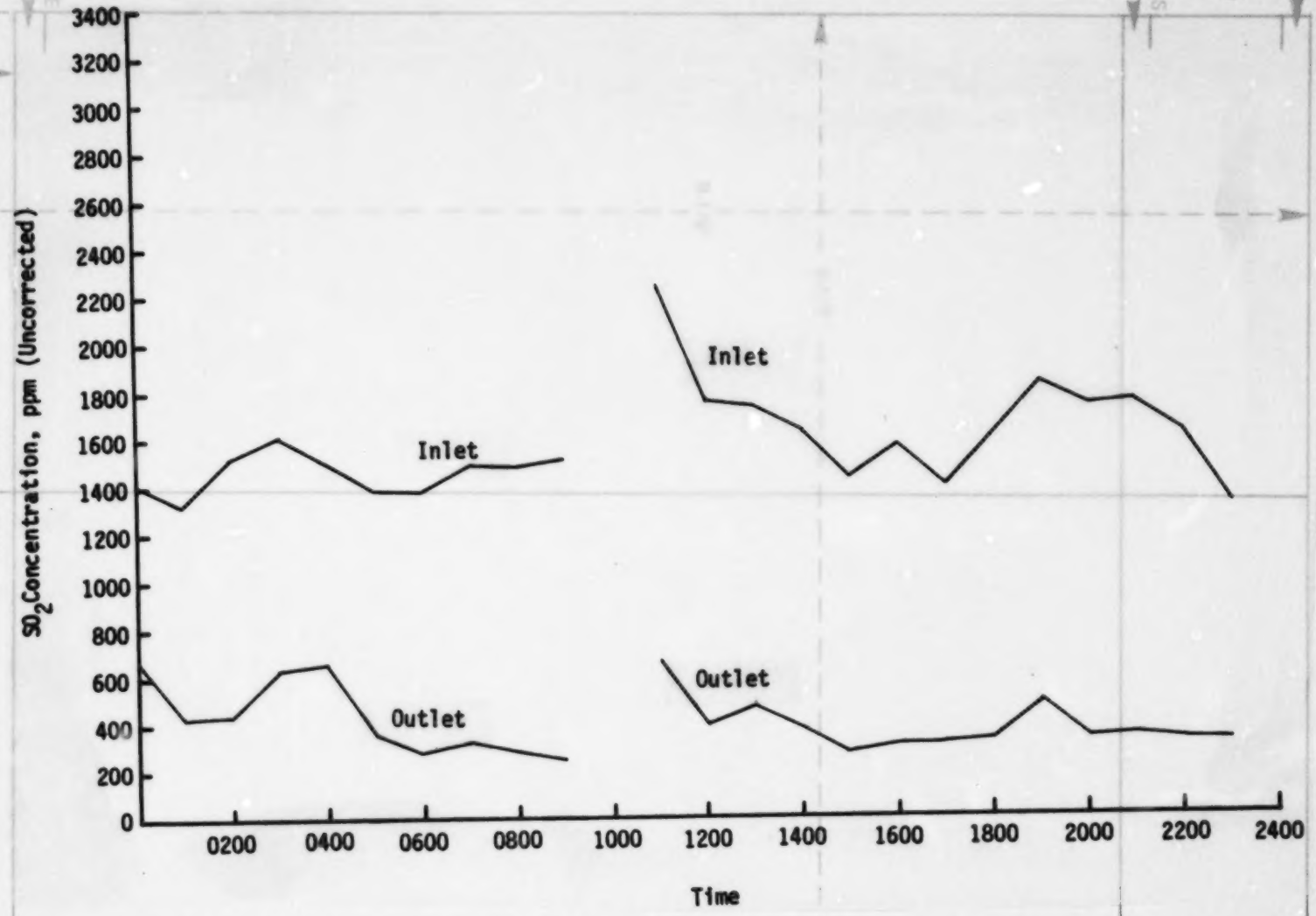

Figure B-22. SO_2 emissions at inlet and outlet of dry FGD system on September 24, 1980.

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Figure B-23. SO_2 emissions at inlet and outlet of dry FGD system on September 25, 1980.

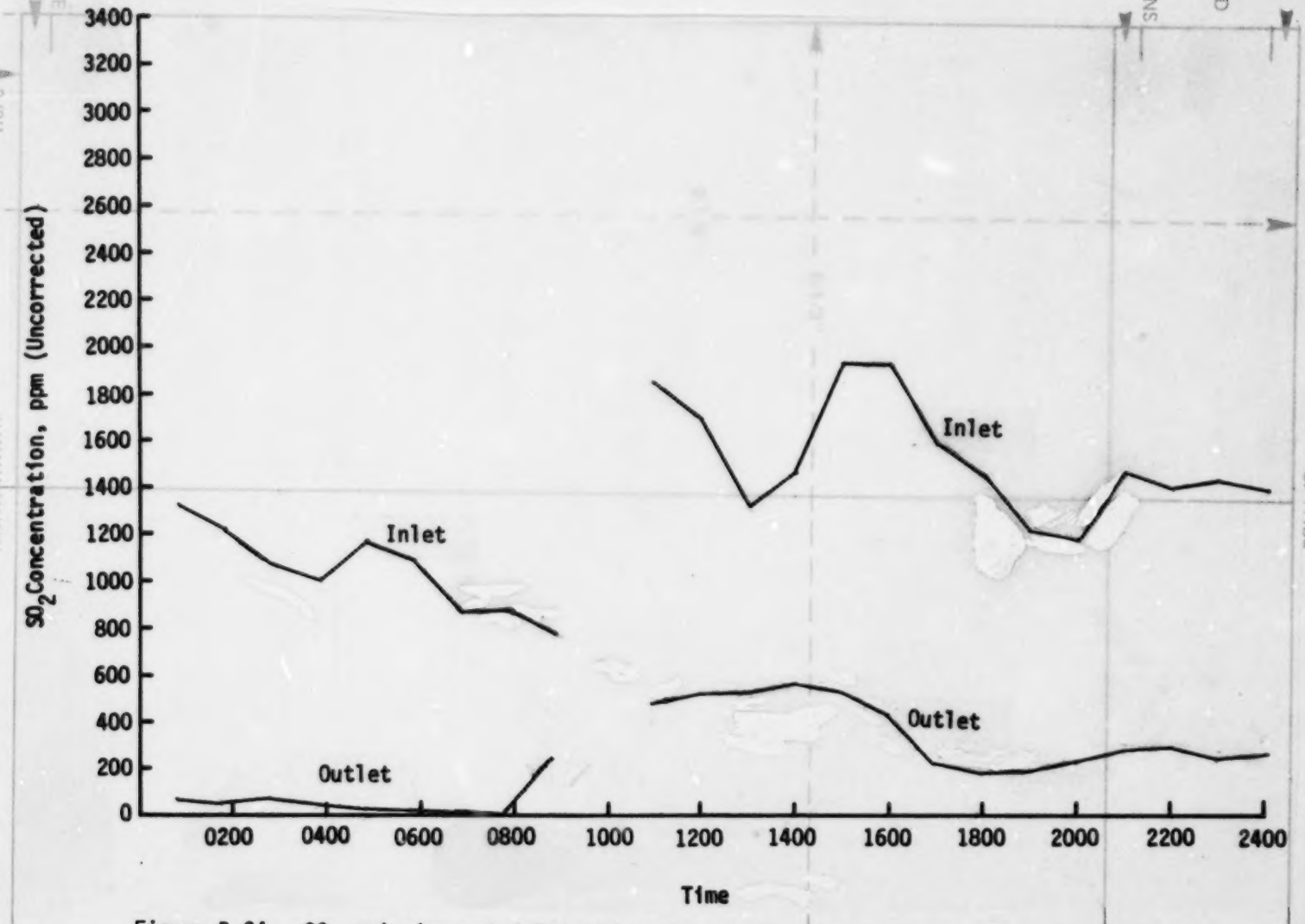

Figure B-24. SO_2 emissions at inlet and outlet of dry FGD system on September 26, 1980.

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Figure B-25. SO_2 emissions at inlet and outlet of dry FGD system on September 27, 1980.

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Figure B-26. SO_2 emissions at inlet and outlet of dry FGD system on September 28, 1980.

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Figure B-27. SO_2 emissions at inlet and outlet of dry FGD system on September 29, 1980.

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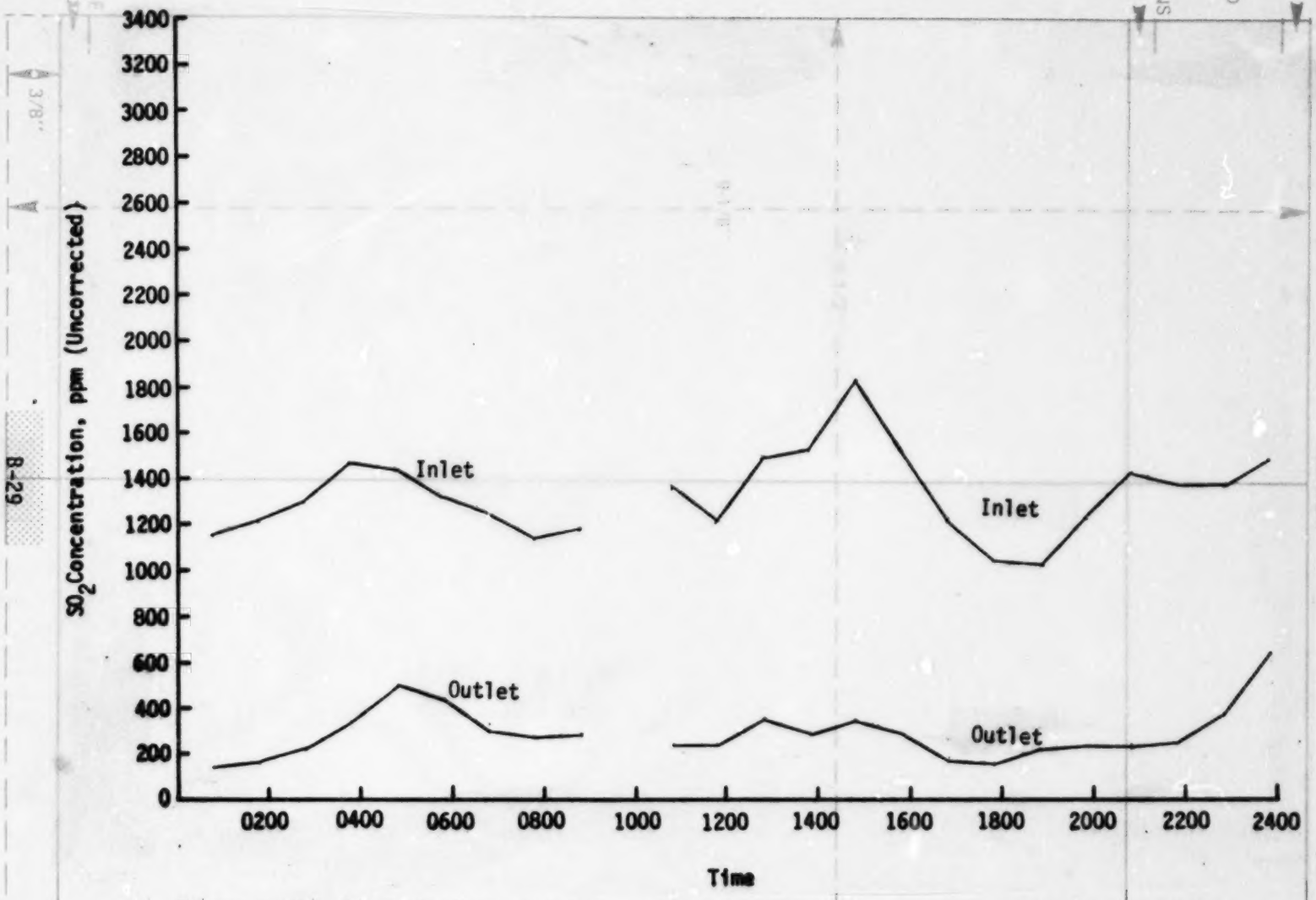

Figure B-28. SO_2 emissions at inlet and outlet of dry FGD system on September 30, 1980.

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APPENDIX C

DAILY SO_2 REMOVAL EFFICIENCIES ON AN HOURLY BASIS

Data gaps are due to insufficient data collected during that hour. The most common cause is daily calibration of the instruments at about 0900.

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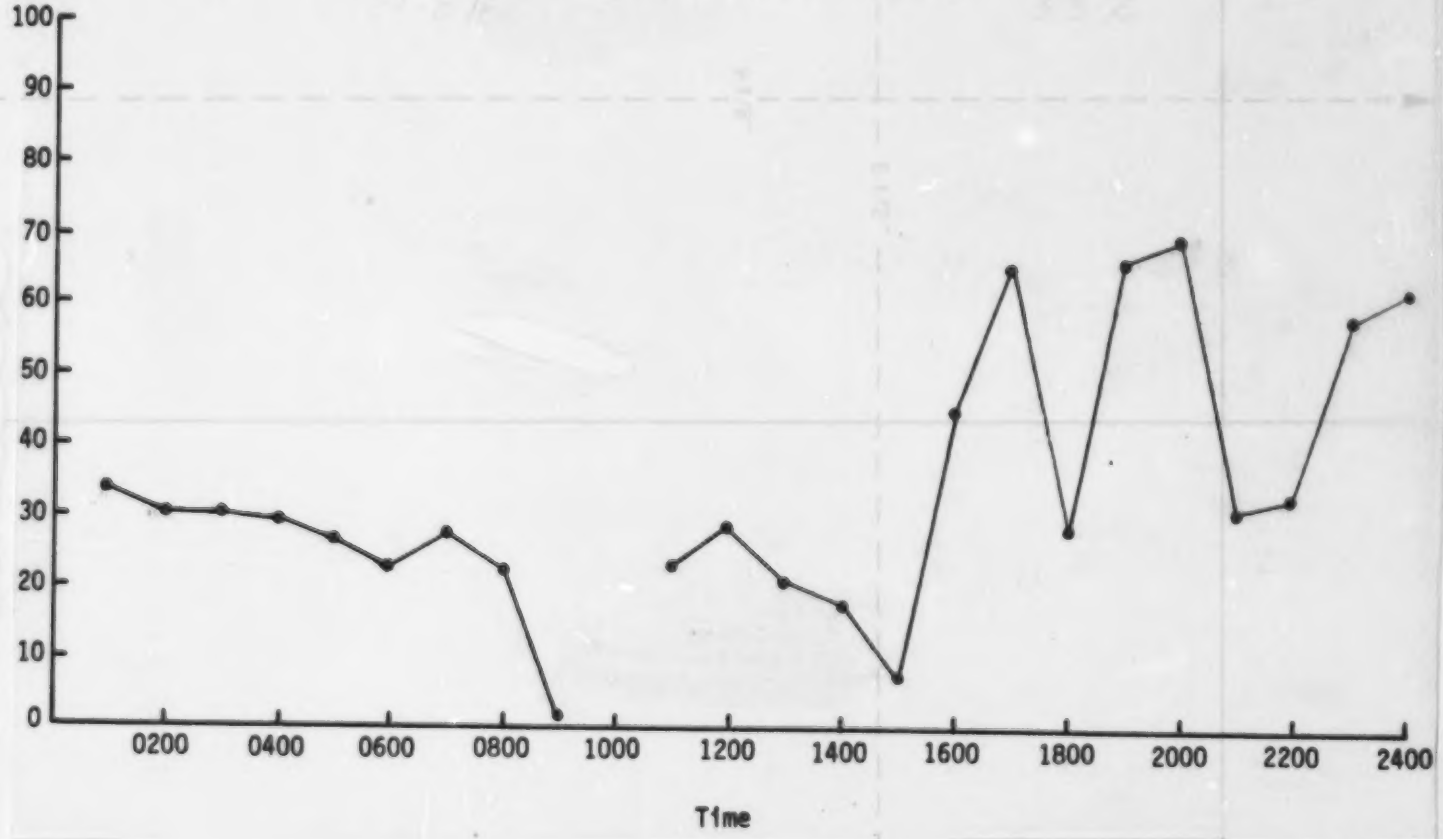

Figure C-1. SO_2 removal efficiency of dry FGD system on August 28, 1980.

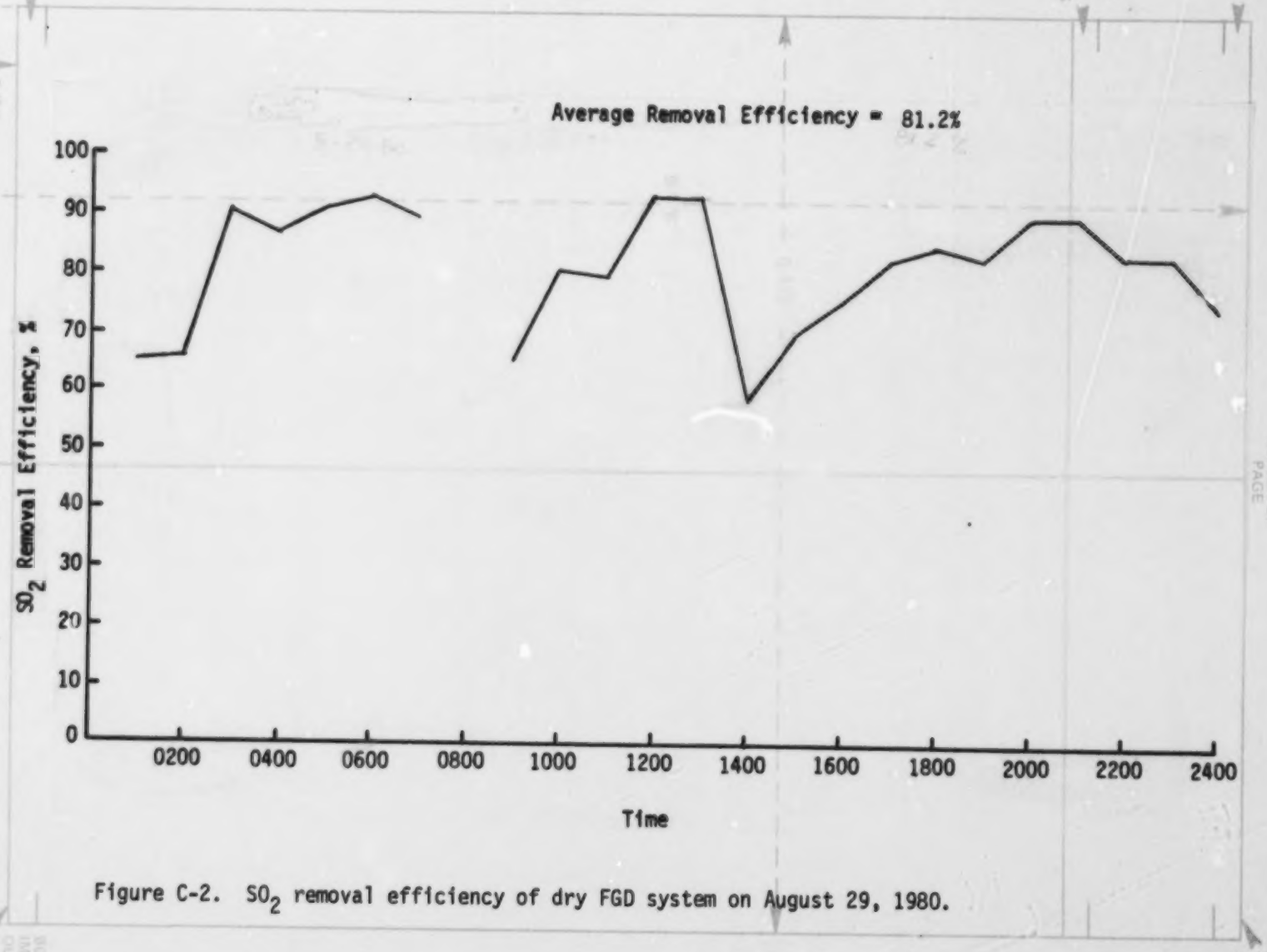

Figure C-2. SO_2 removal efficiency of dry FGD system on August 29, 1980.

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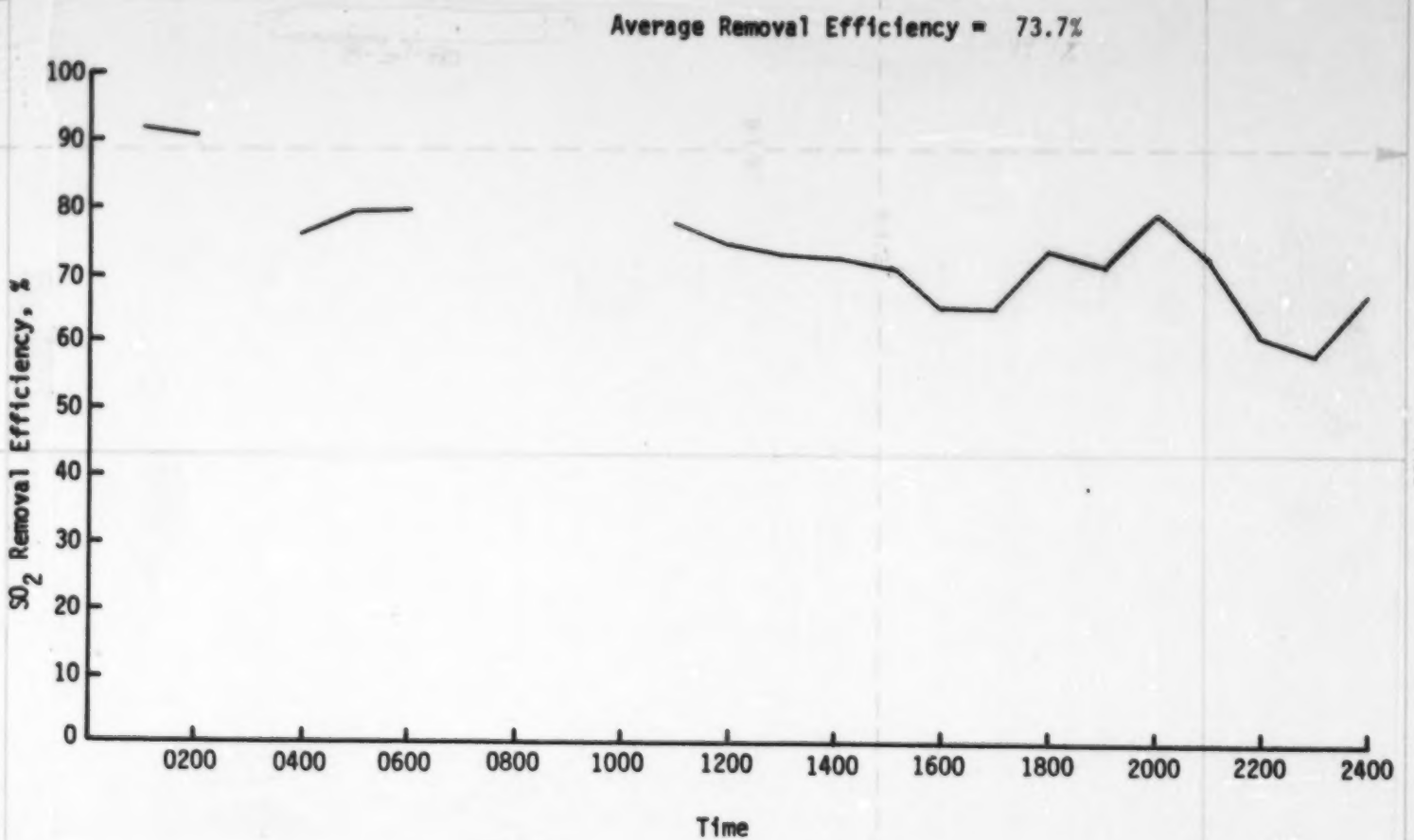

Figure C-3. SO_2 removal efficiency of dry FGD system on August 30, 1980.

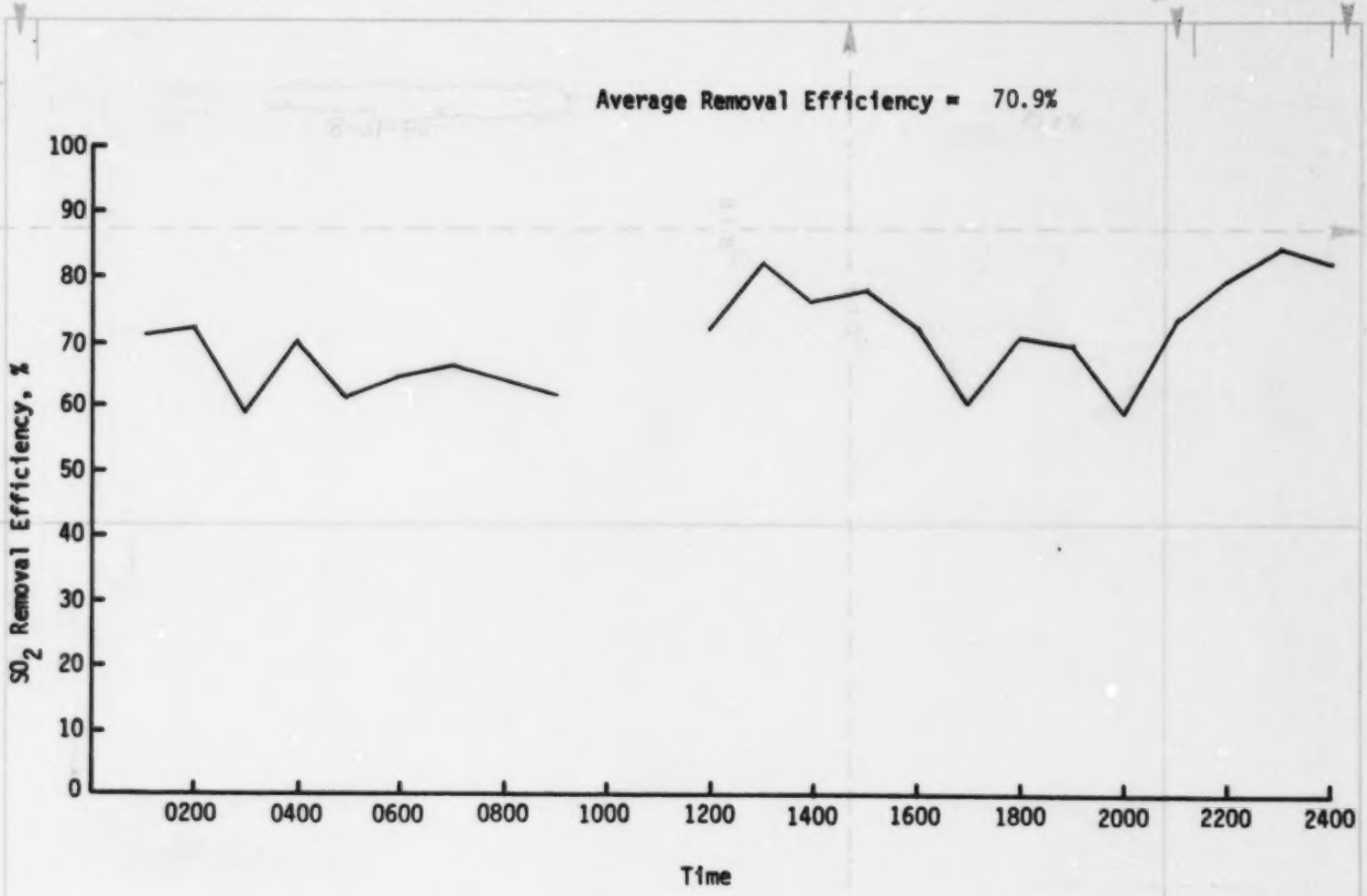

Figure C-4. SO_2 removal efficiency of dry FGD system on August 31, 1980.

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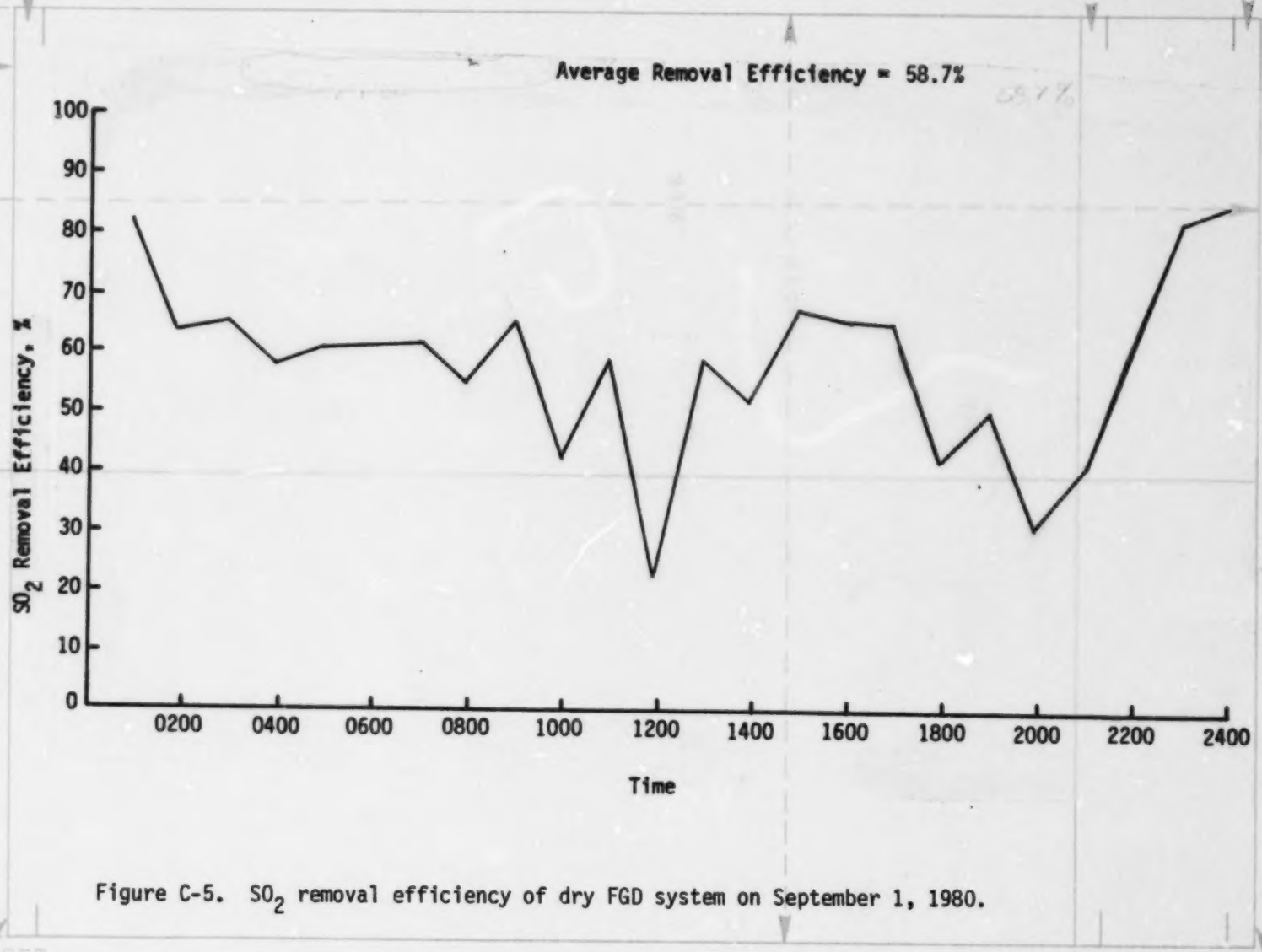

Figure C-5. SO_2 removal efficiency of dry FGD system on September 1, 1980.

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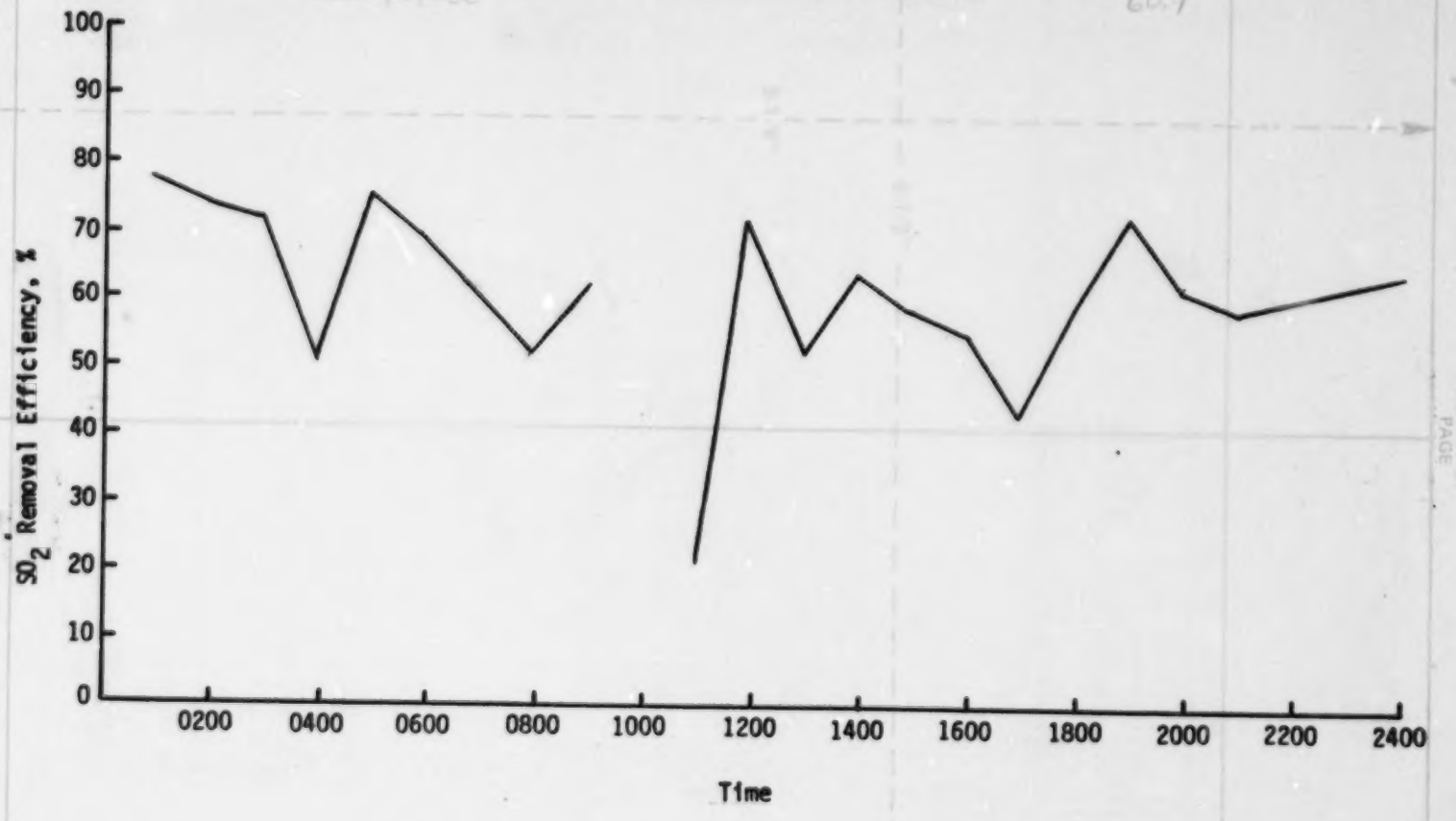

Figure C-6. SO_2 removal efficiency of dry FGD system on September 2, 1980.

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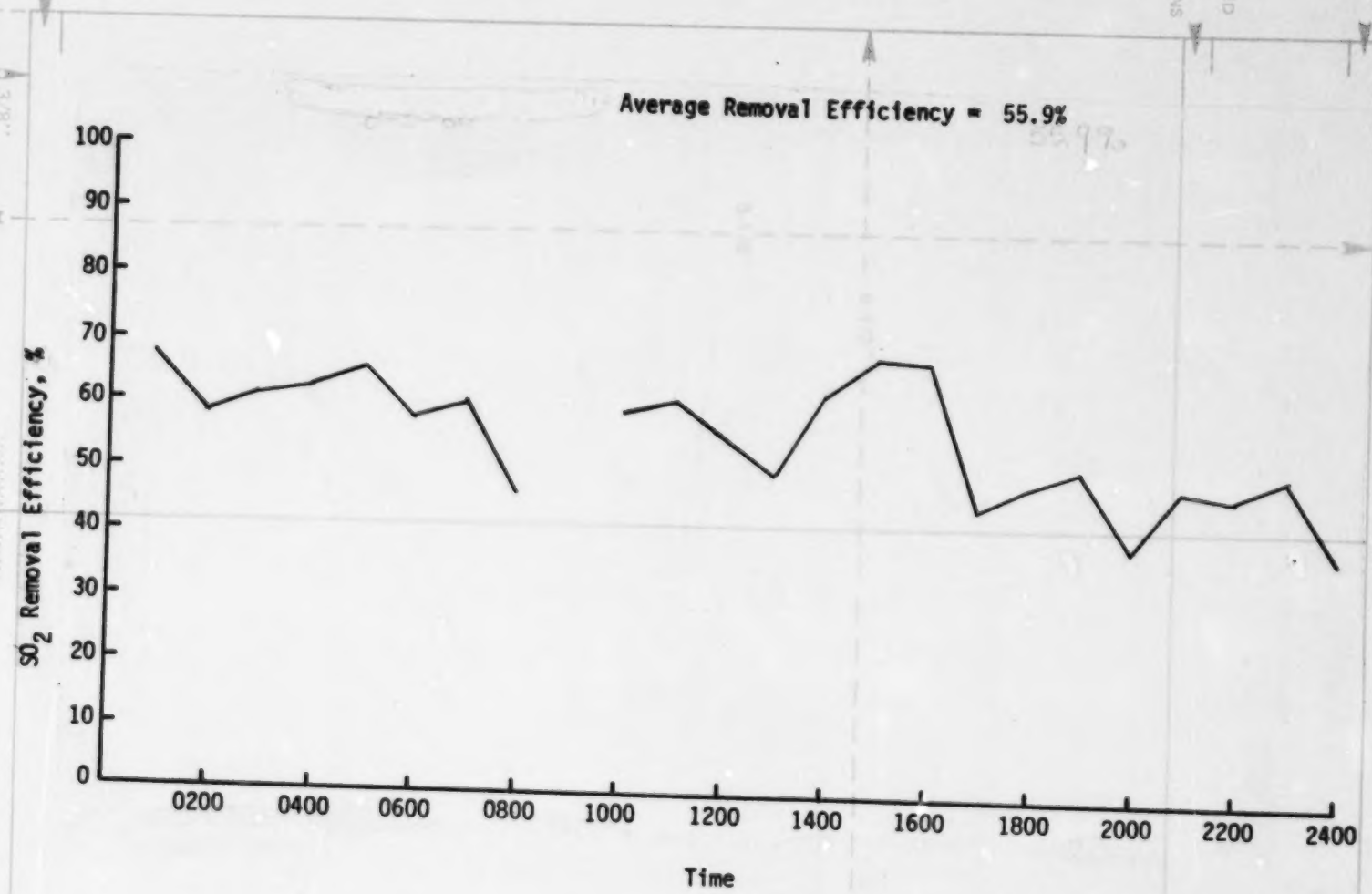

Figure C-7. SO_2 removal efficiency of dry FGD system on September 3, 1980.

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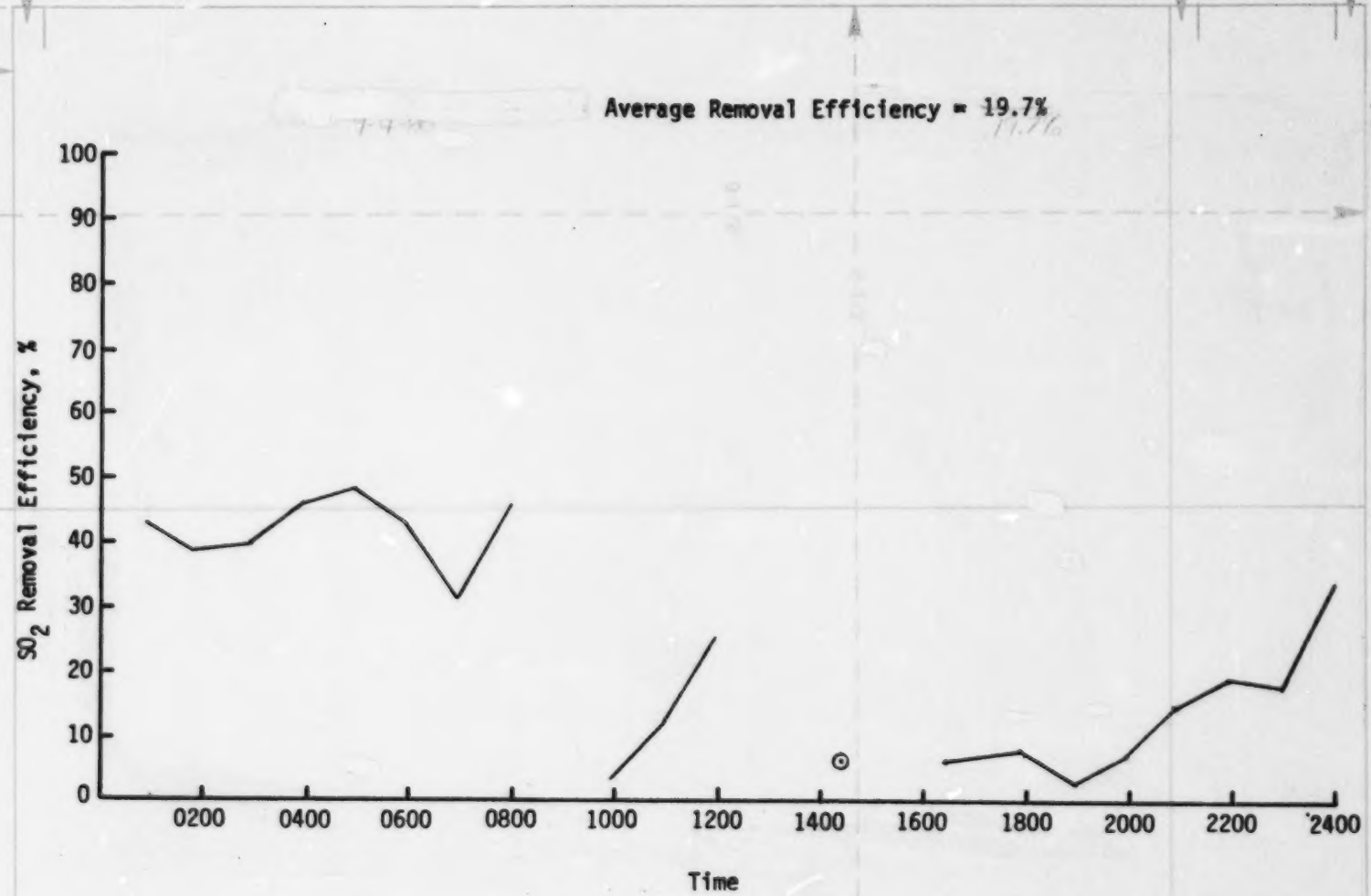

Figure C-8. SO_2 removal efficiency of dry FGD system on September 4, 1980.

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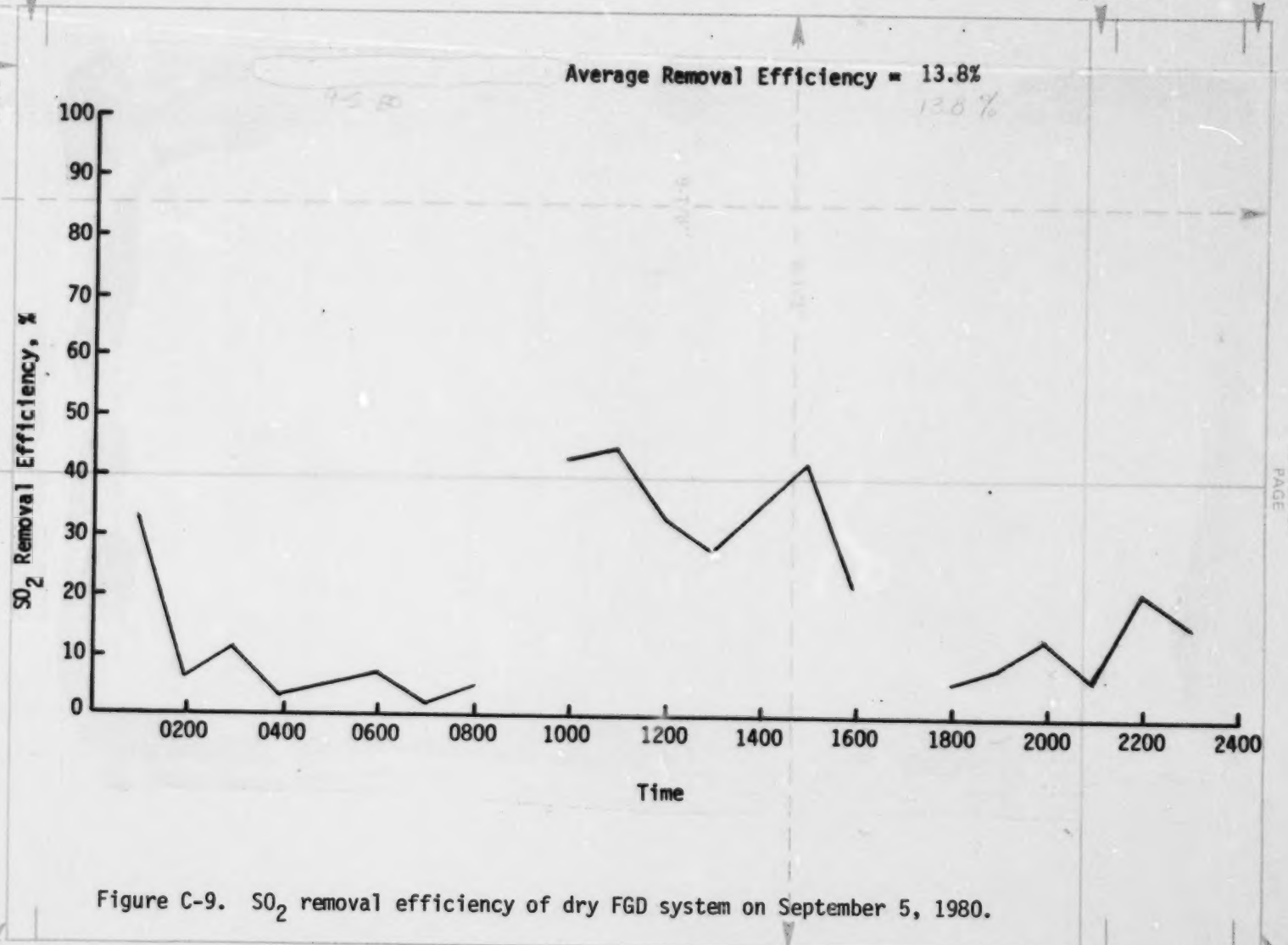

Figure C-9. SO_2 removal efficiency of dry FGD system on September 5, 1980.

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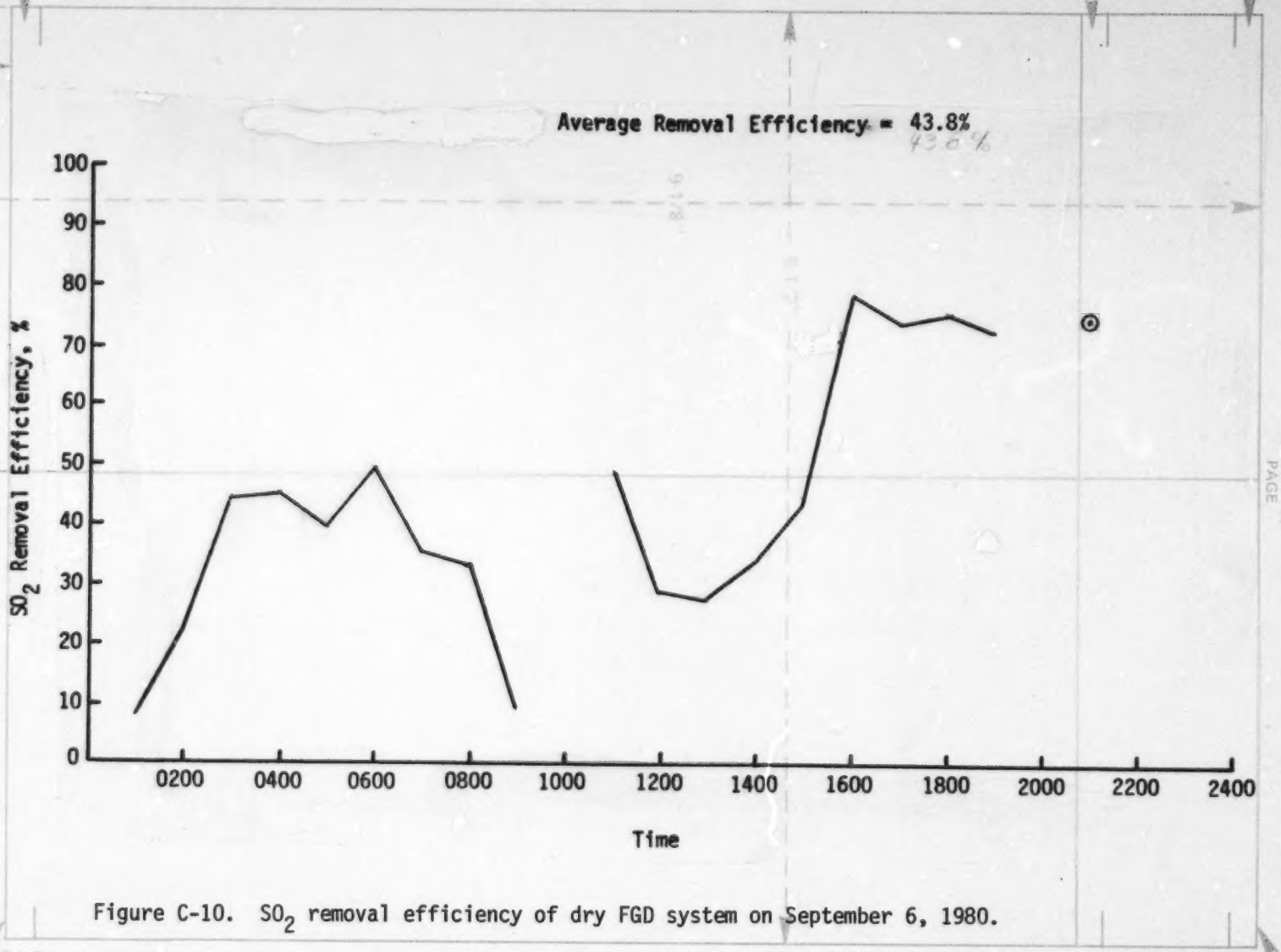

Figure C-10. SO_2 removal efficiency of dry FGD system on September 6, 1980.

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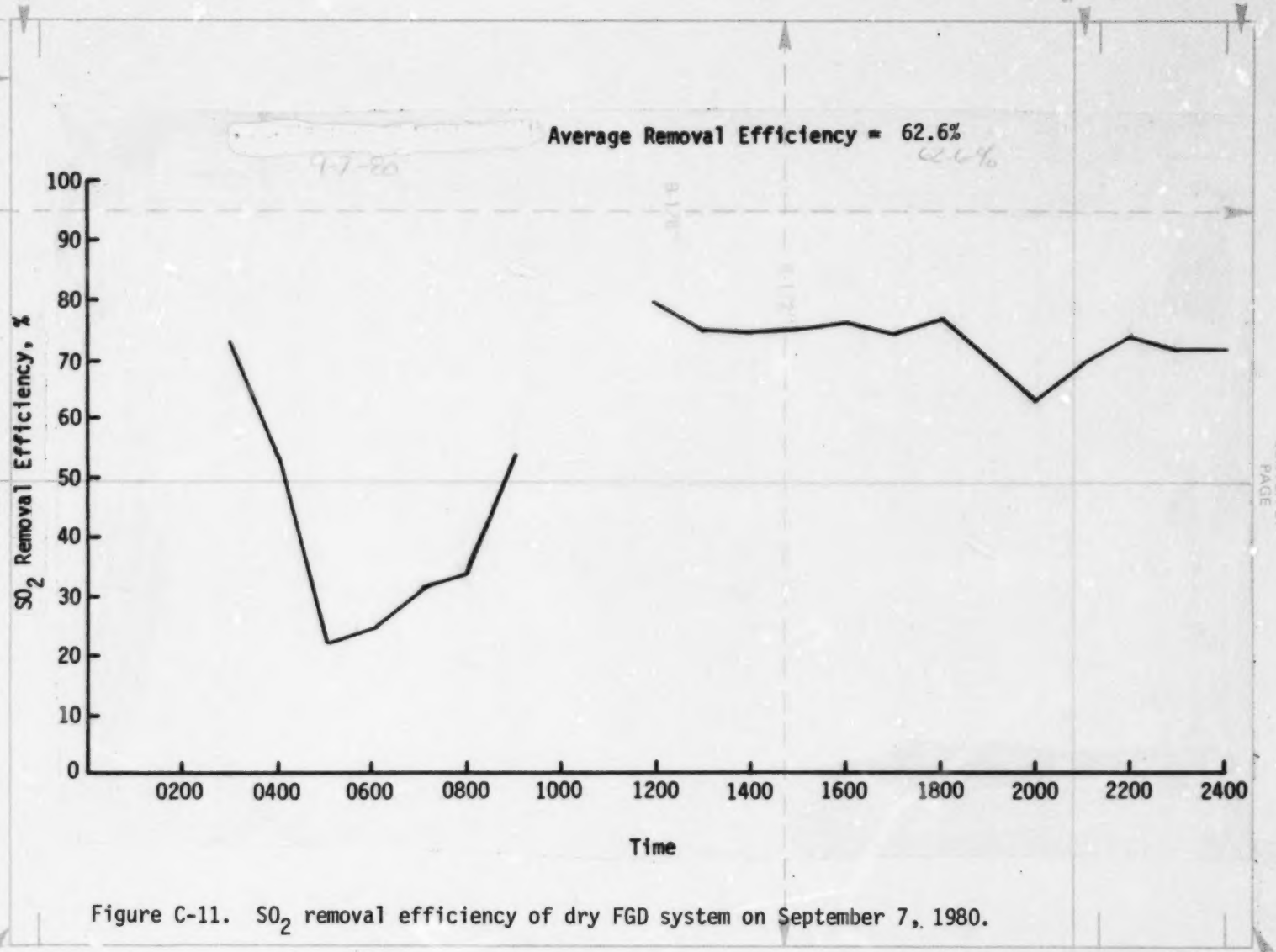

Figure C-11. SO_2 removal efficiency of dry FGD system on September 7, 1980.

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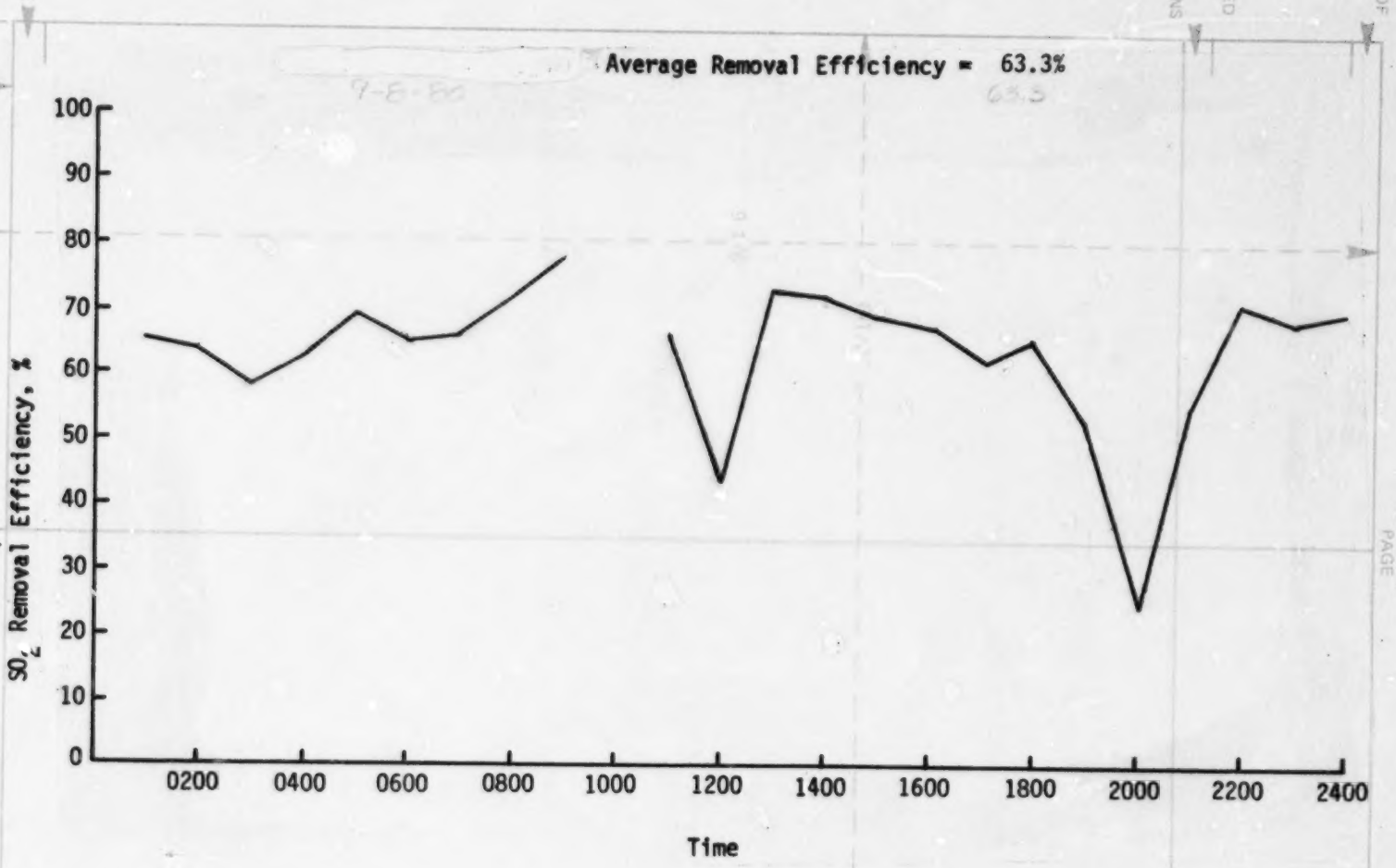

Figure C-12. SO_2 removal efficiency of dry FGD system on September 8, 1980.

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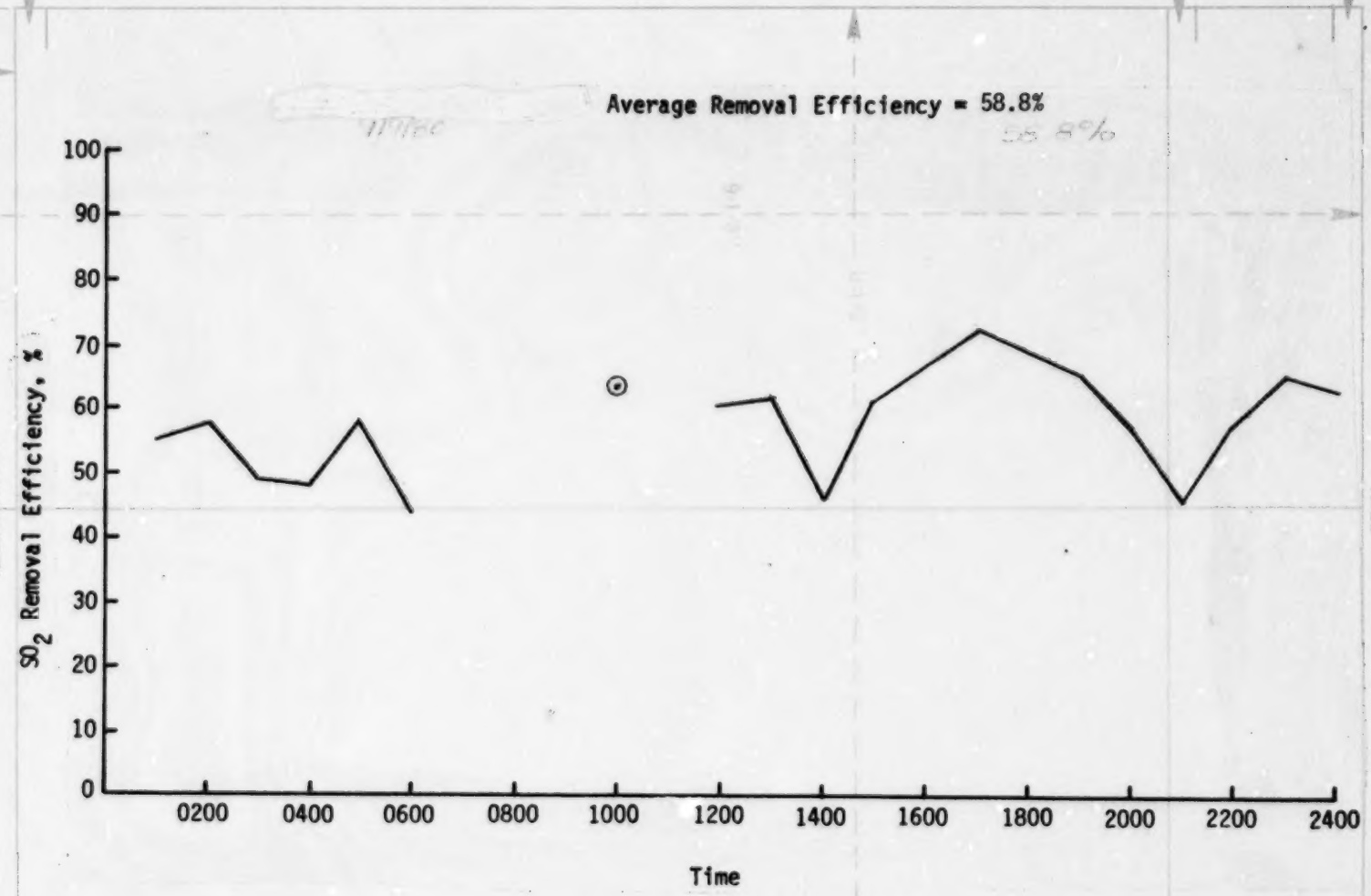

Figure C-13. SO_2 removal efficiency of dry FGD system on September 9, 1980.

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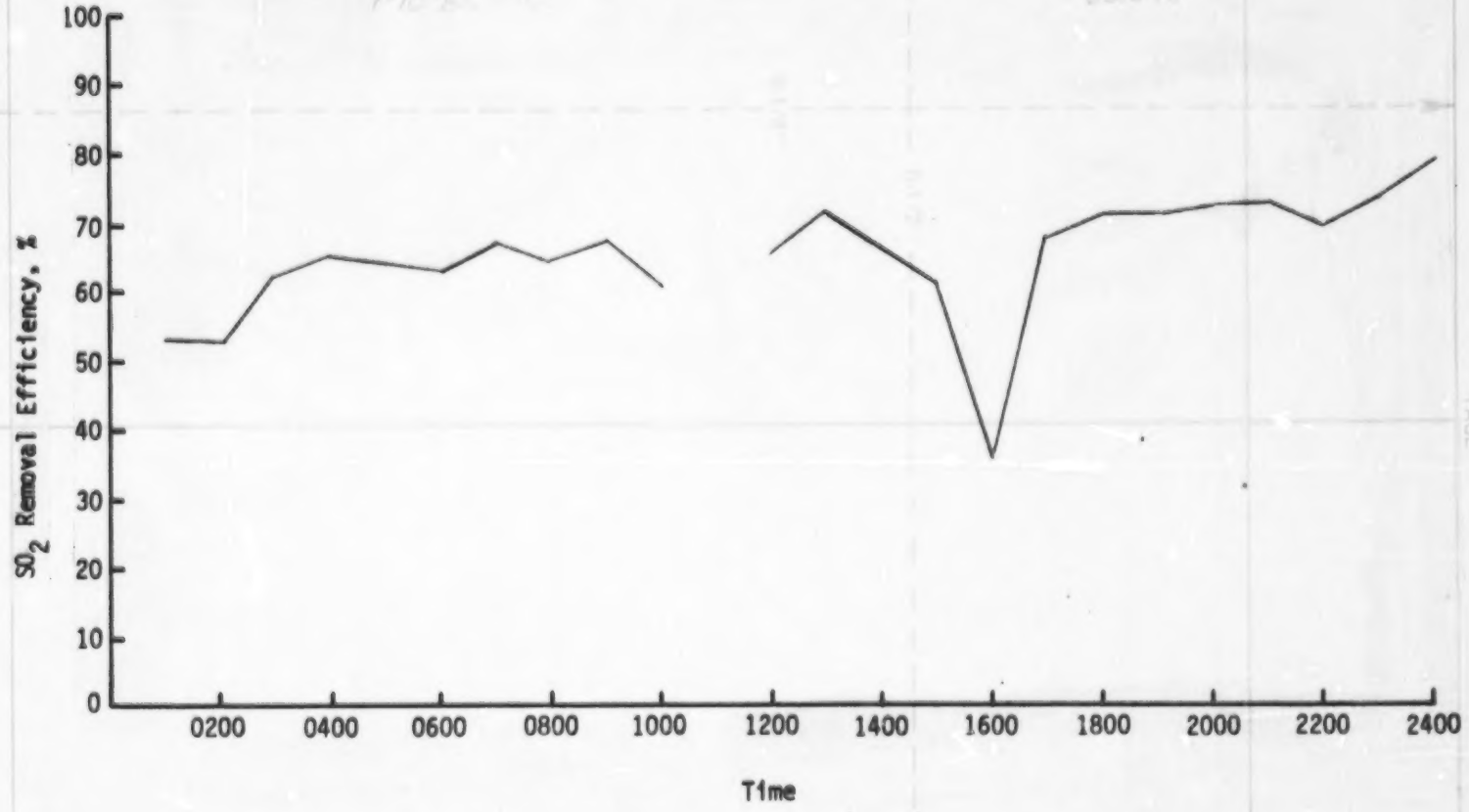

Figure C-14. SO_2 removal efficiency of dry FGD system on September 10, 1980.

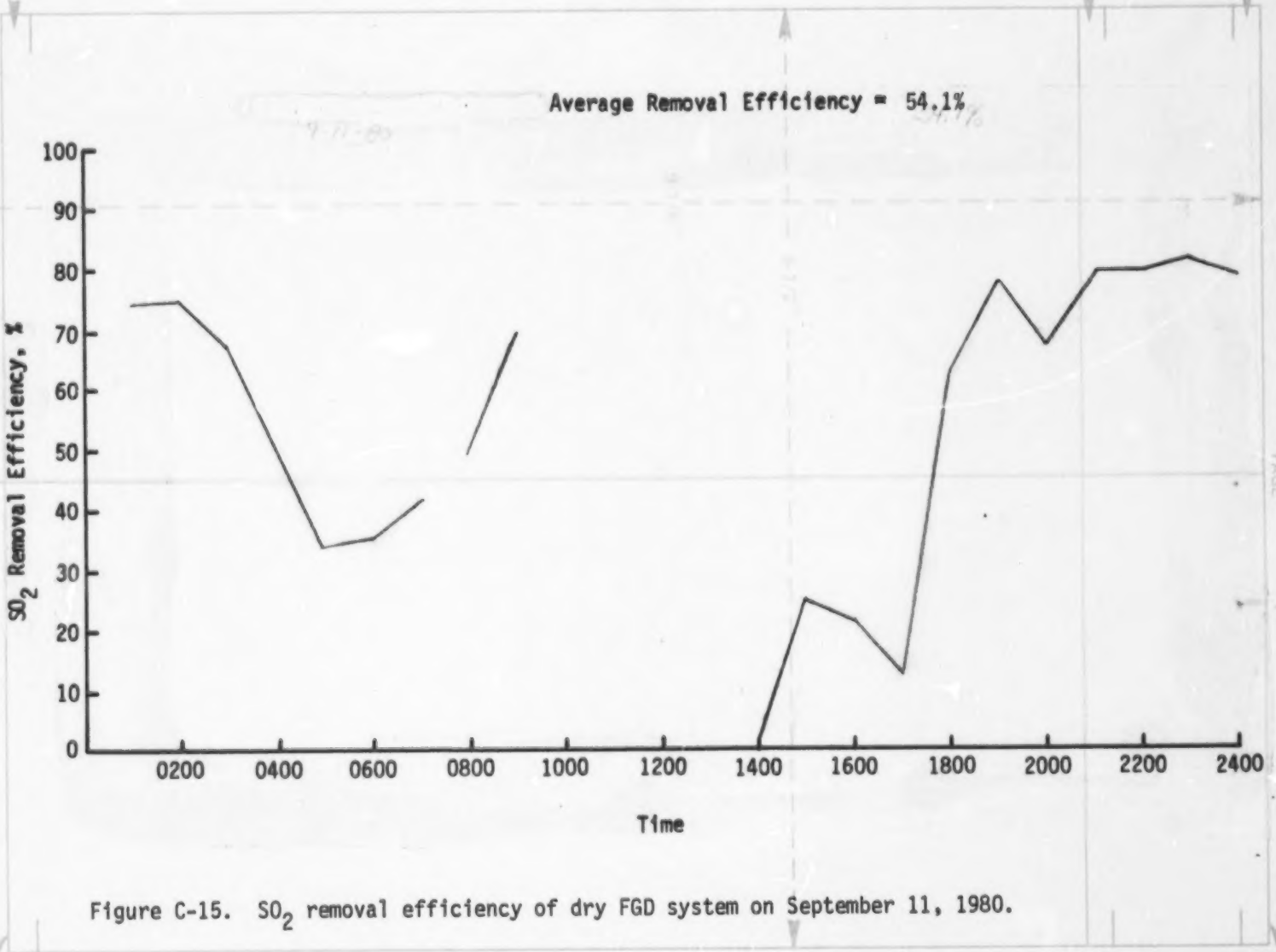

Figure C-15. SO_2 removal efficiency of dry FGD system on September 11, 1980.

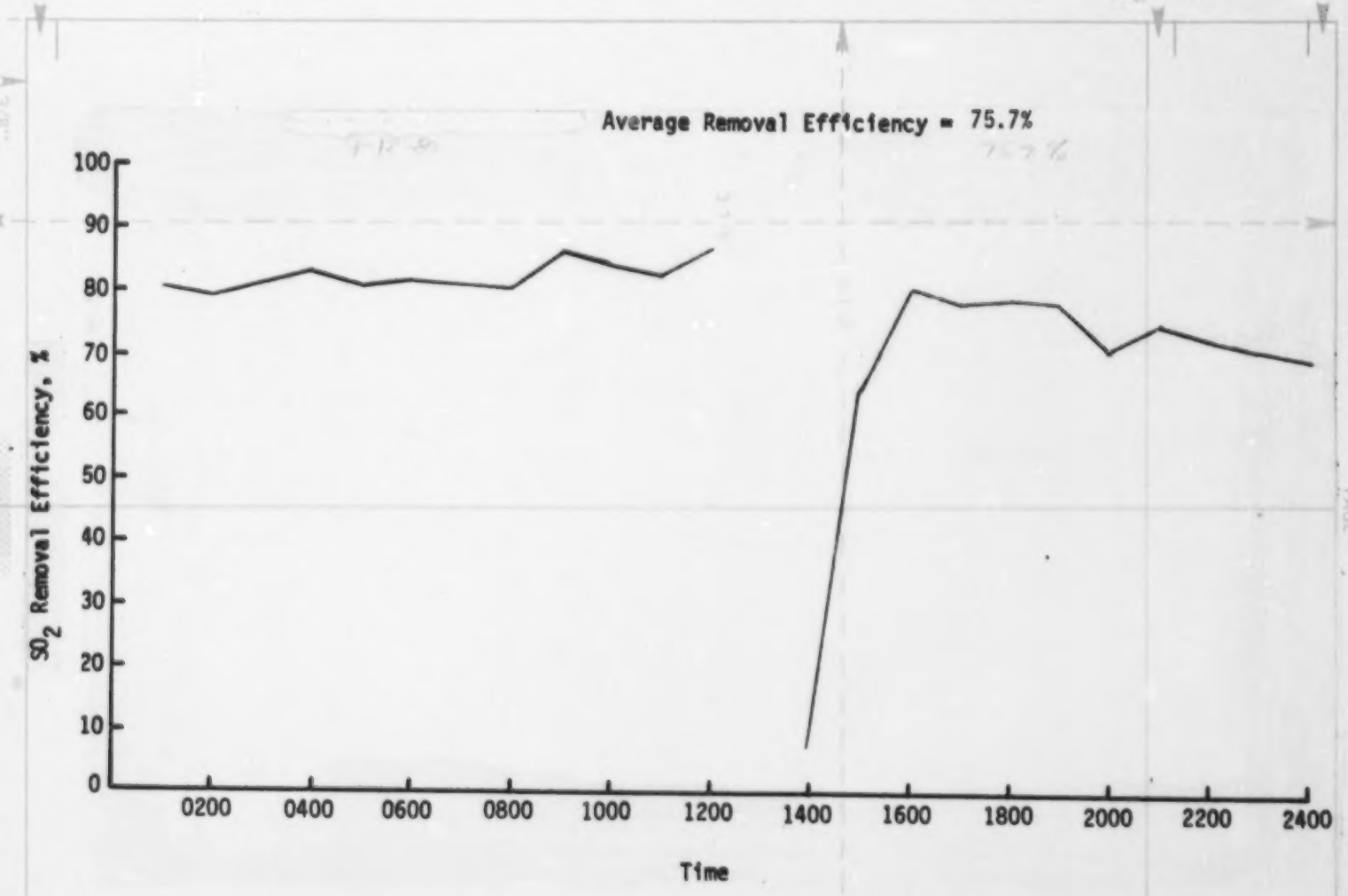

Figure C-16. SO_2 removal efficiency of dry FGD system on September 12, 1980.

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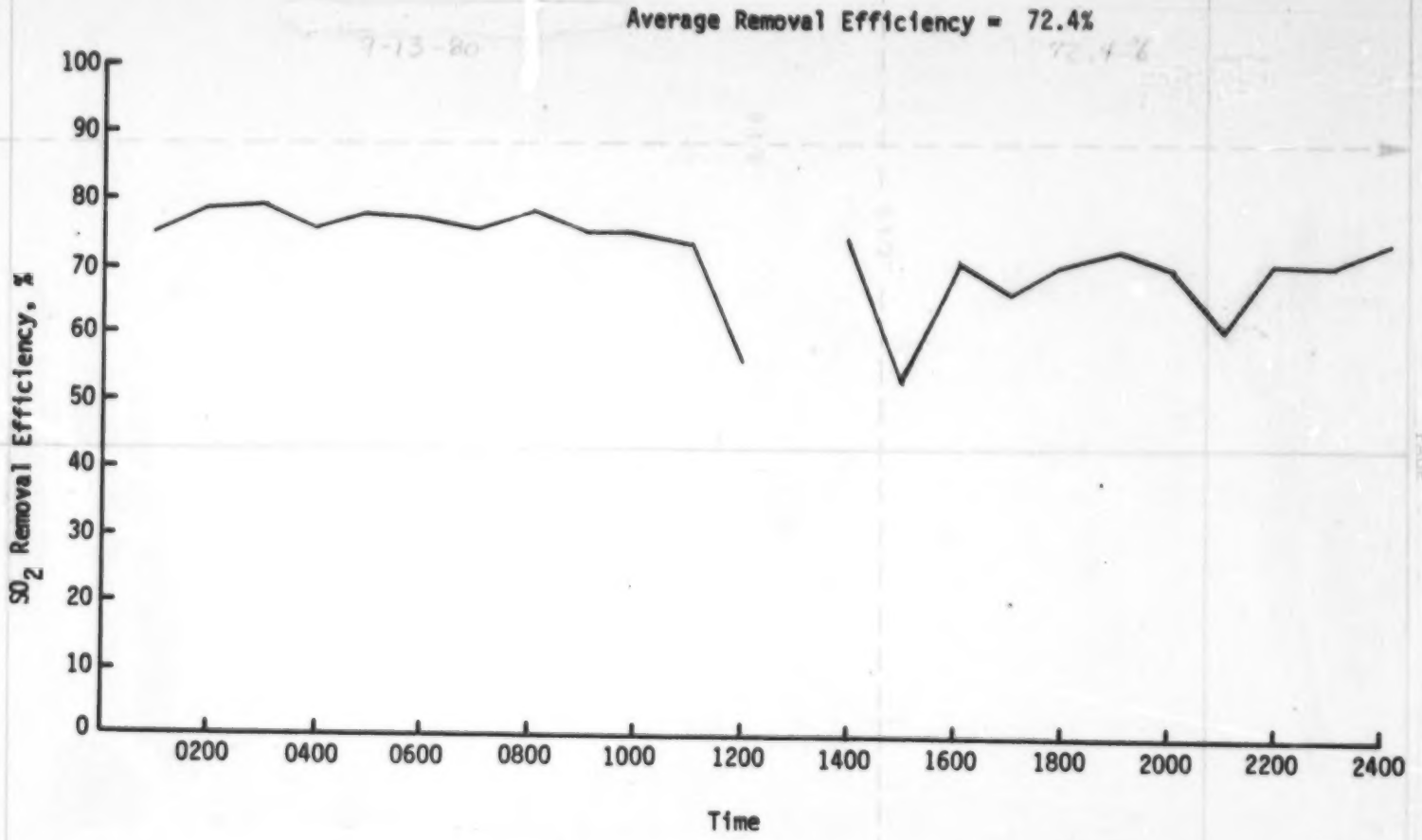

Figure C-17. SO_2 removal efficiency of dry FGD system on September 13, 1980.

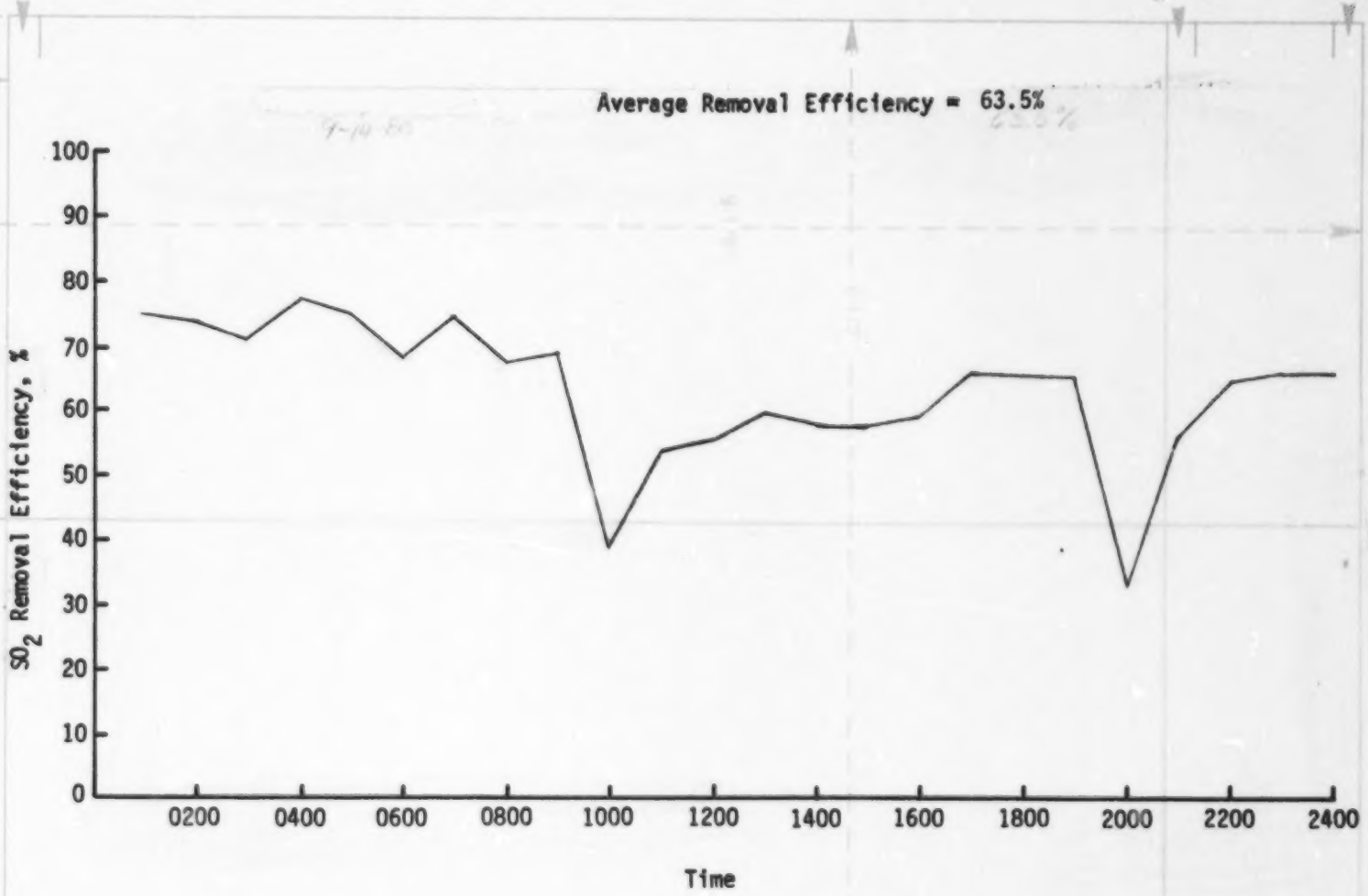

Figure C-18. SO_2 removal efficiency of dry FGD system on September 14, 1980.

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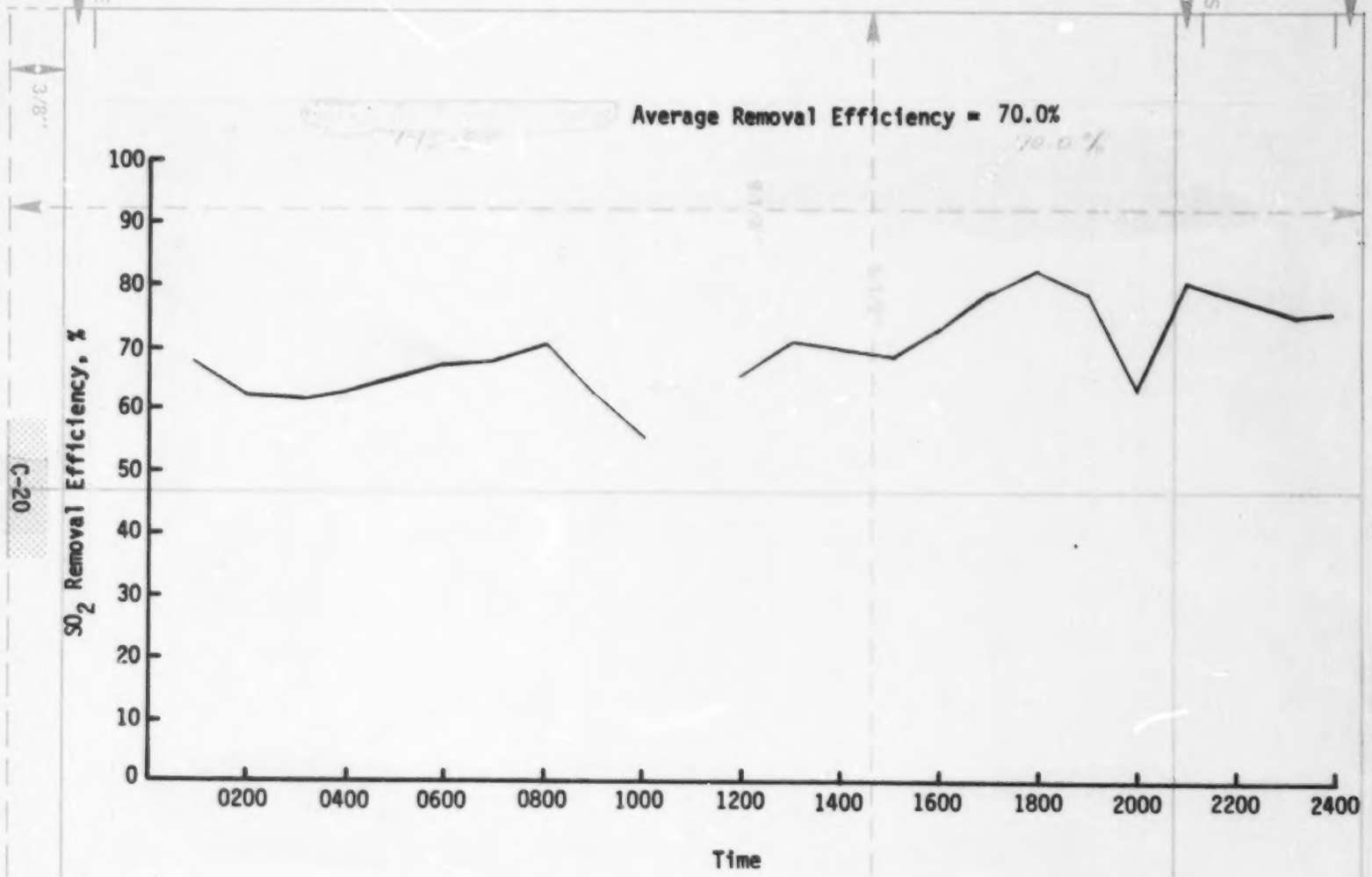

Figure C-19. SO_2 removal efficiency of dry FGD system on September 15, 1980.

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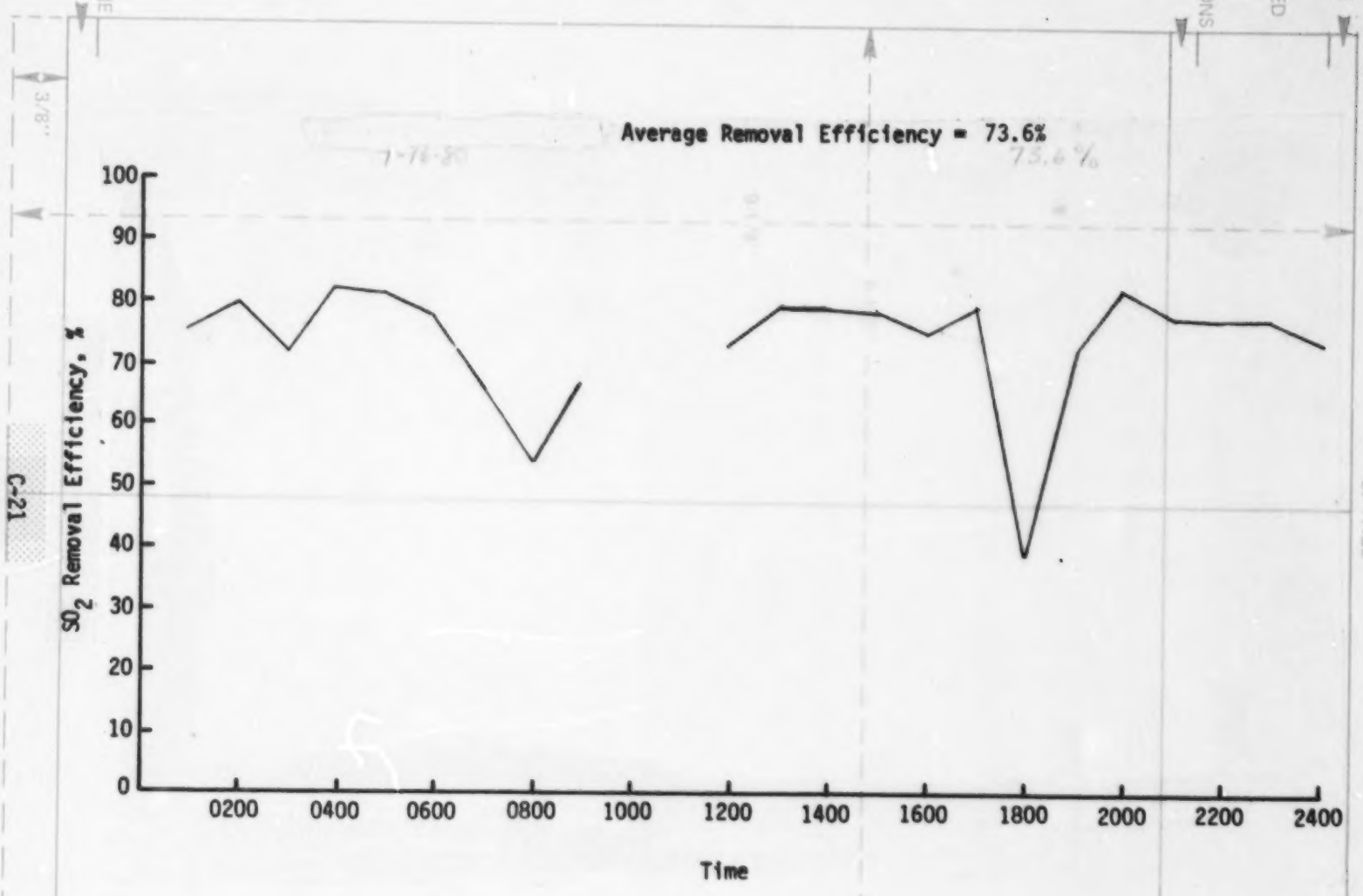

Figure C-20. SO_2 removal efficiency of dry FGD system on September 16, 1980.

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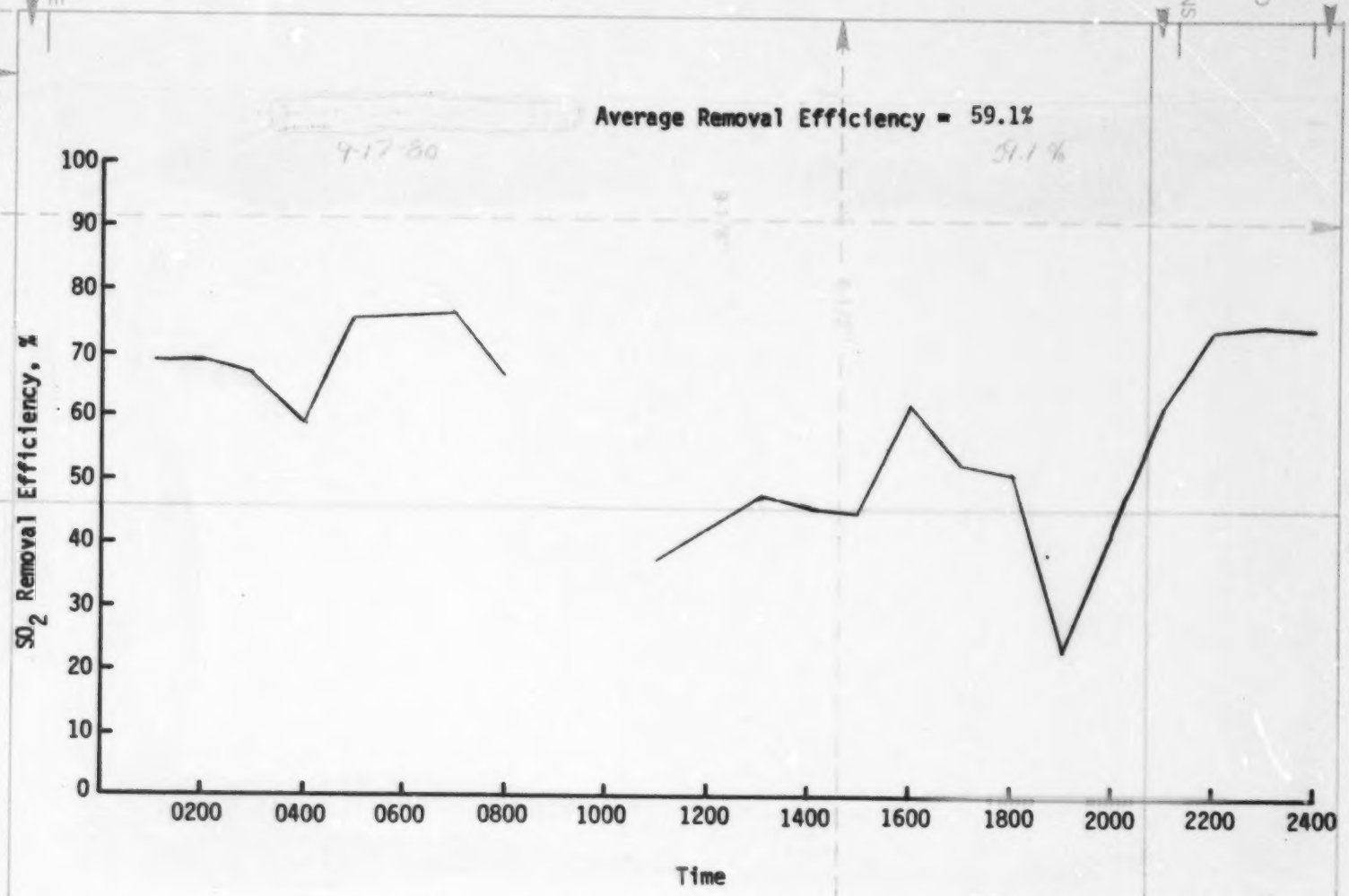

Figure C-21. SO_2 removal efficiency of dry FGD system on September 17, 1980.

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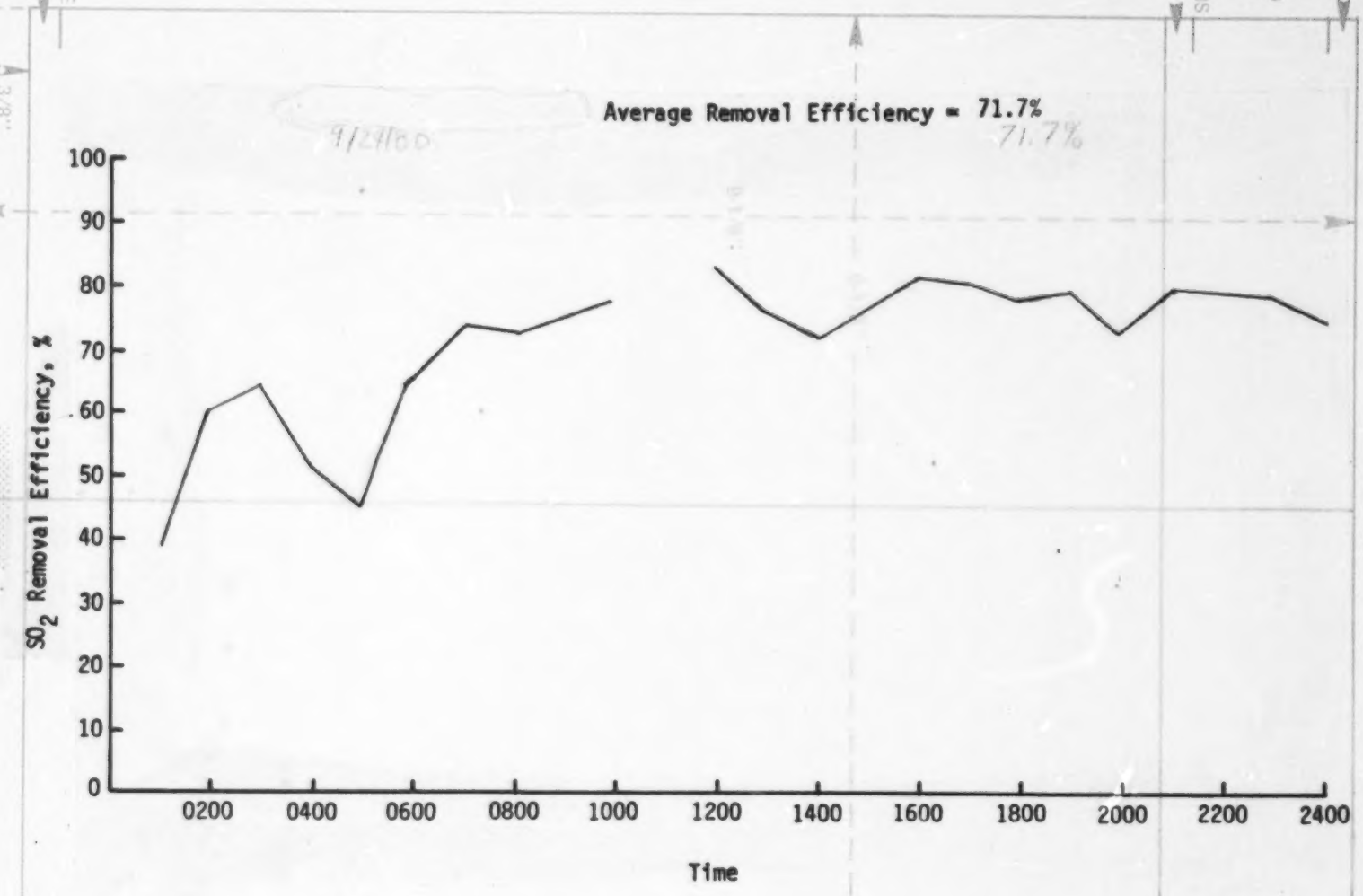

Figure C-22. SO_2 removal efficiency of dry FGD system on September 24, 1980.

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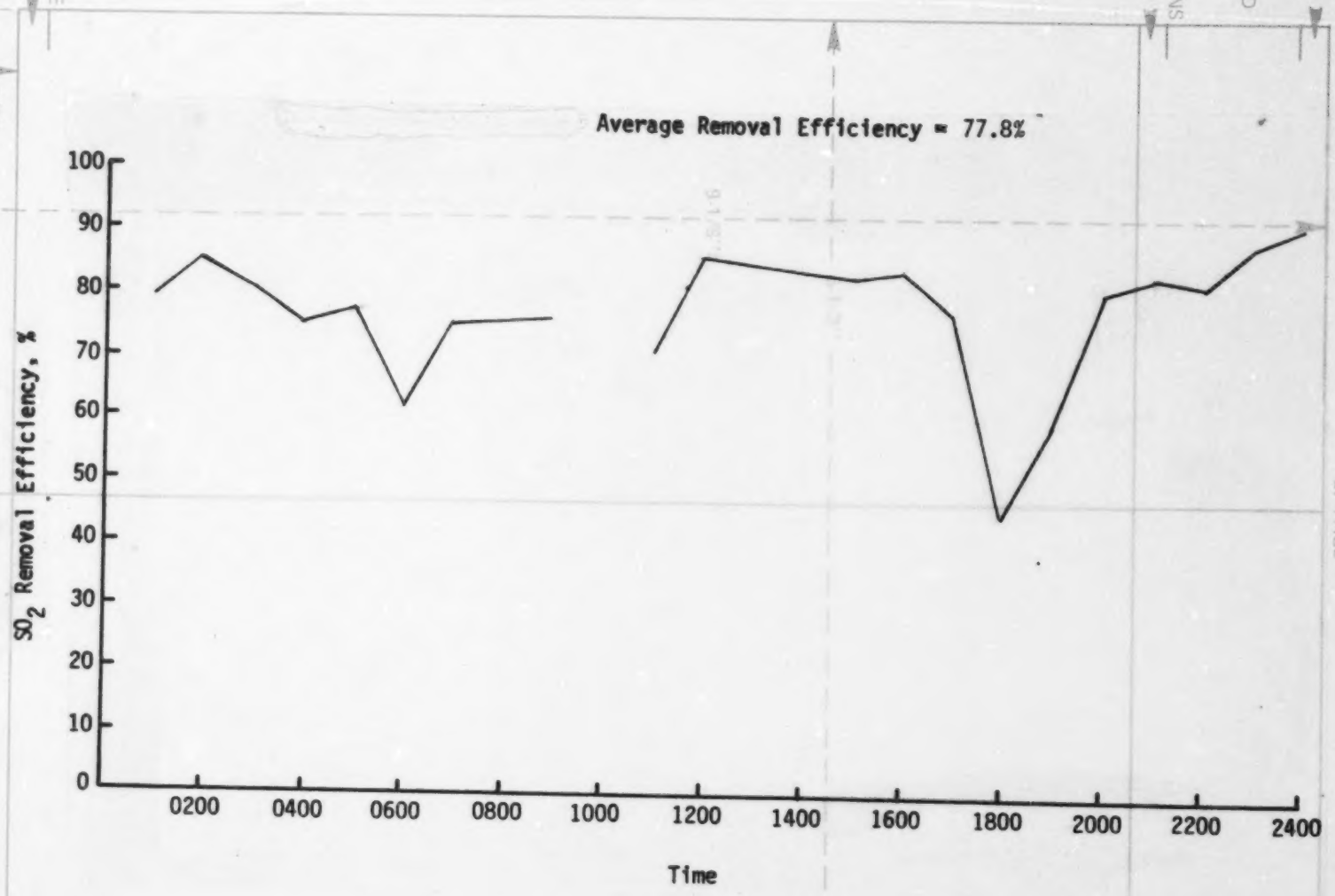

Figure C-23. SO_2 removal efficiency of dry FGD system on September 25, 1980.

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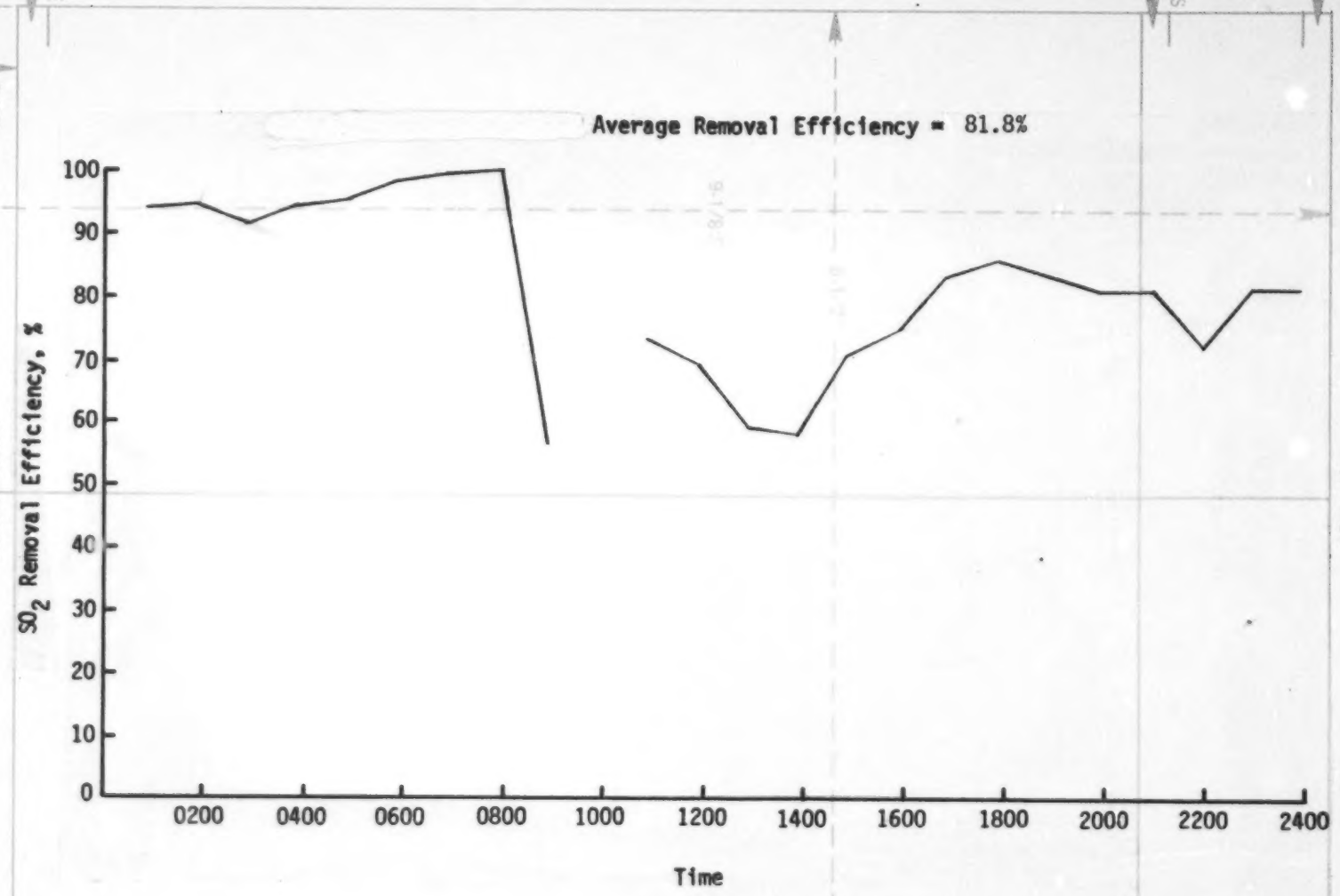

Figure C-24. SO_2 removal efficiency of dry FGD system on September 26, 1980.

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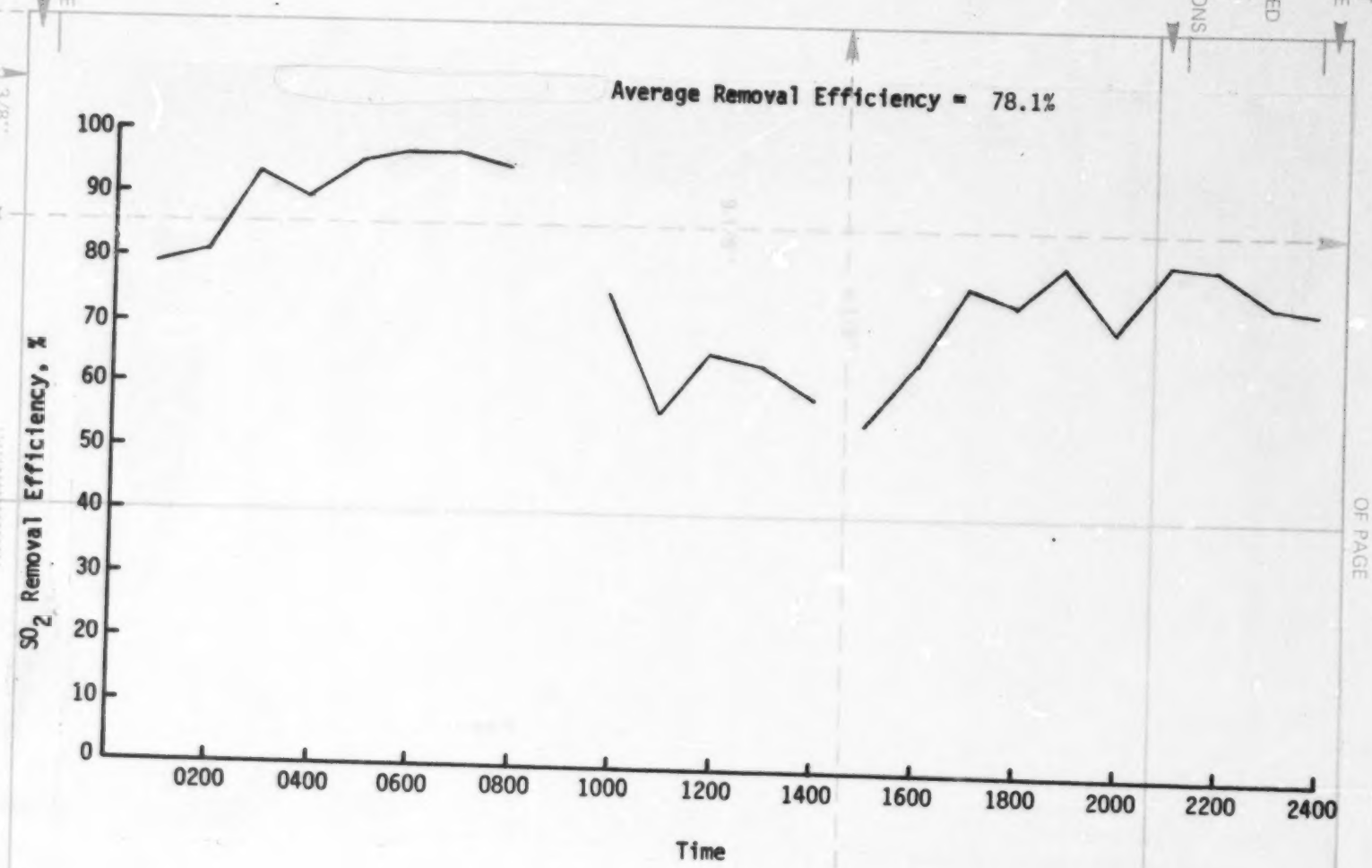

Figure C-25. SO_2 removal efficiency of dry FGD system on September 27, 1980.

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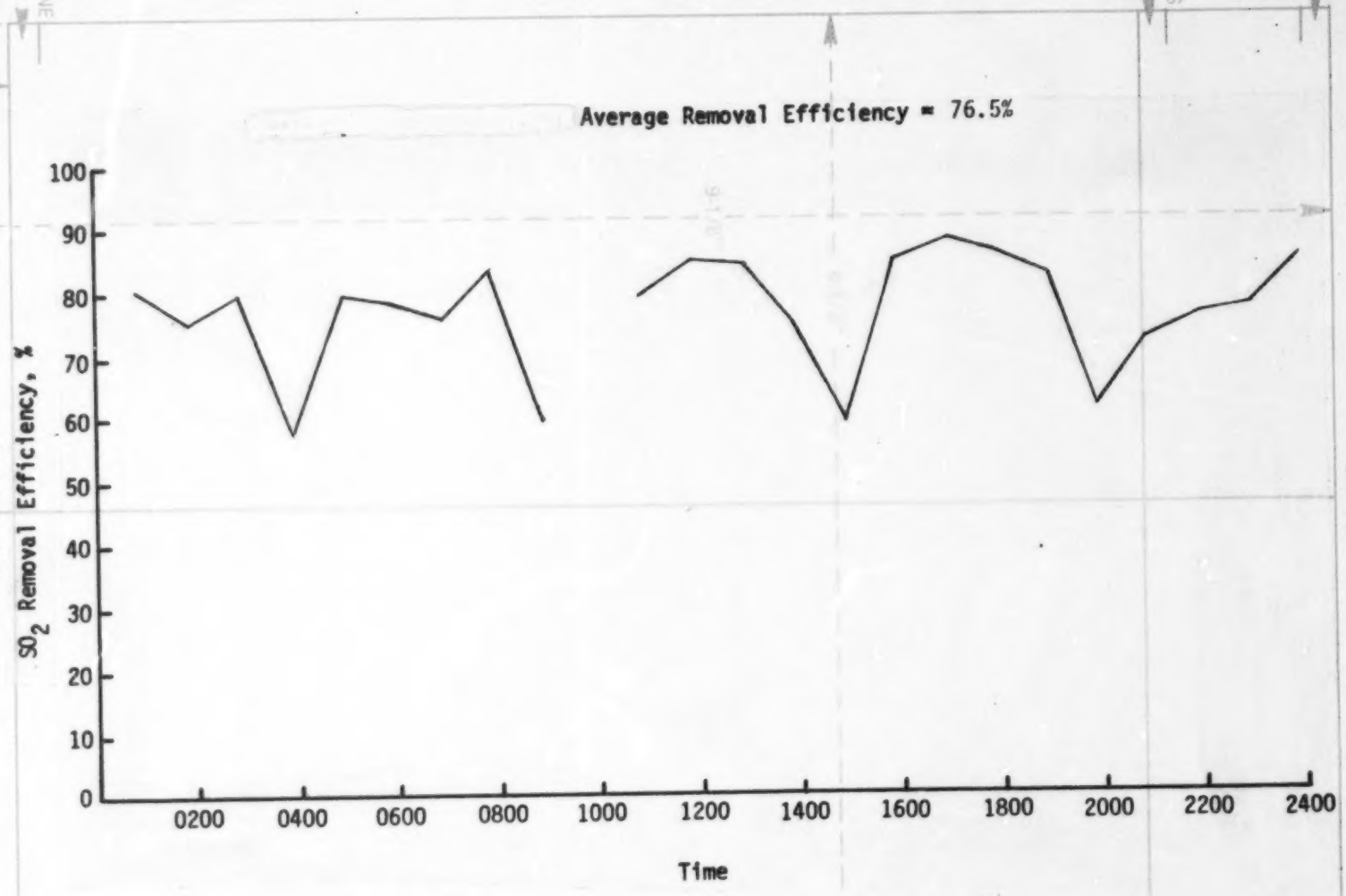

Figure C-26. SO_2 removal efficiency of dry FGD system on September 28, 1980.

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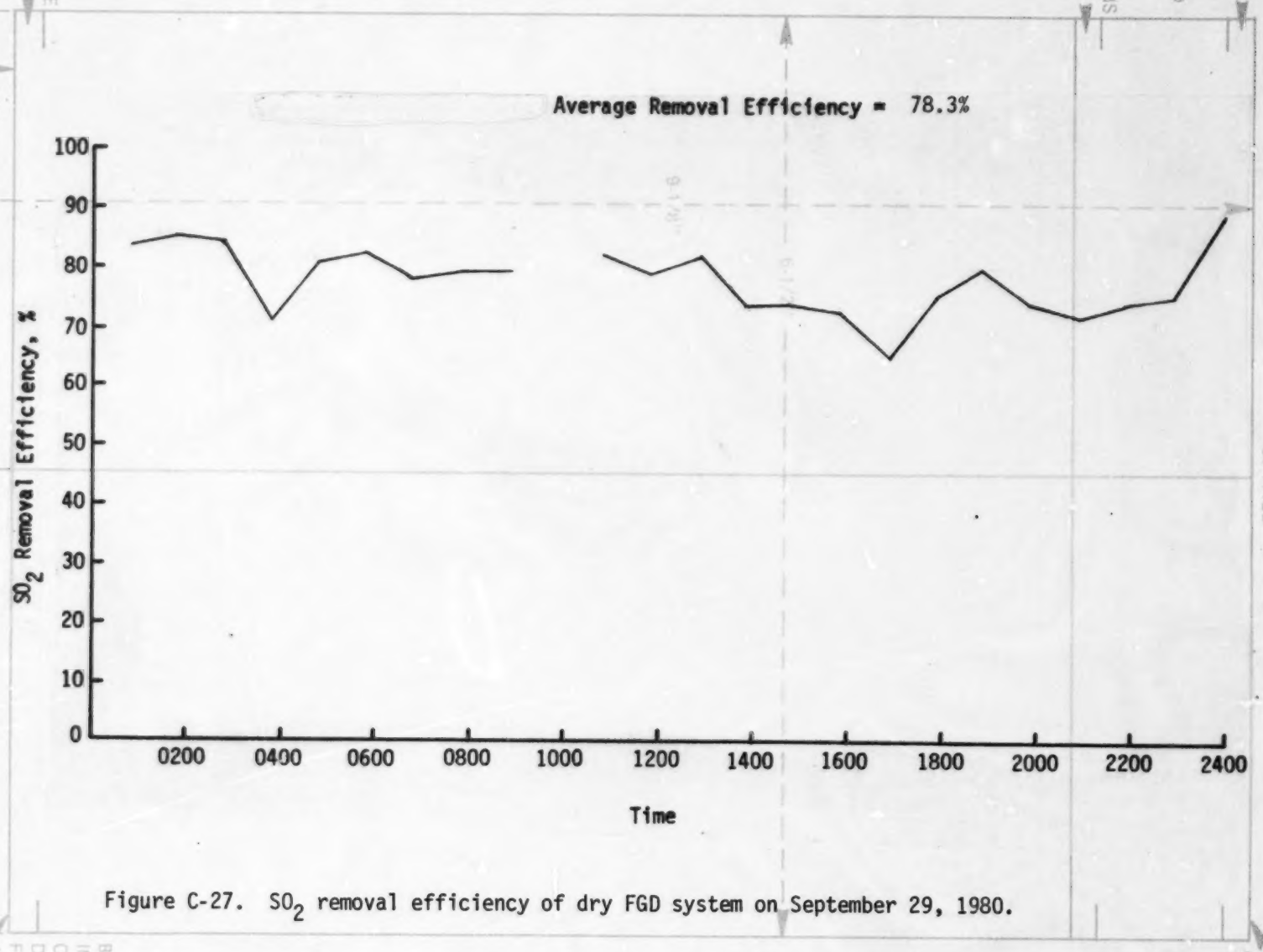

Figure C-27. SO_2 removal efficiency of dry FGD system on September 29, 1980.

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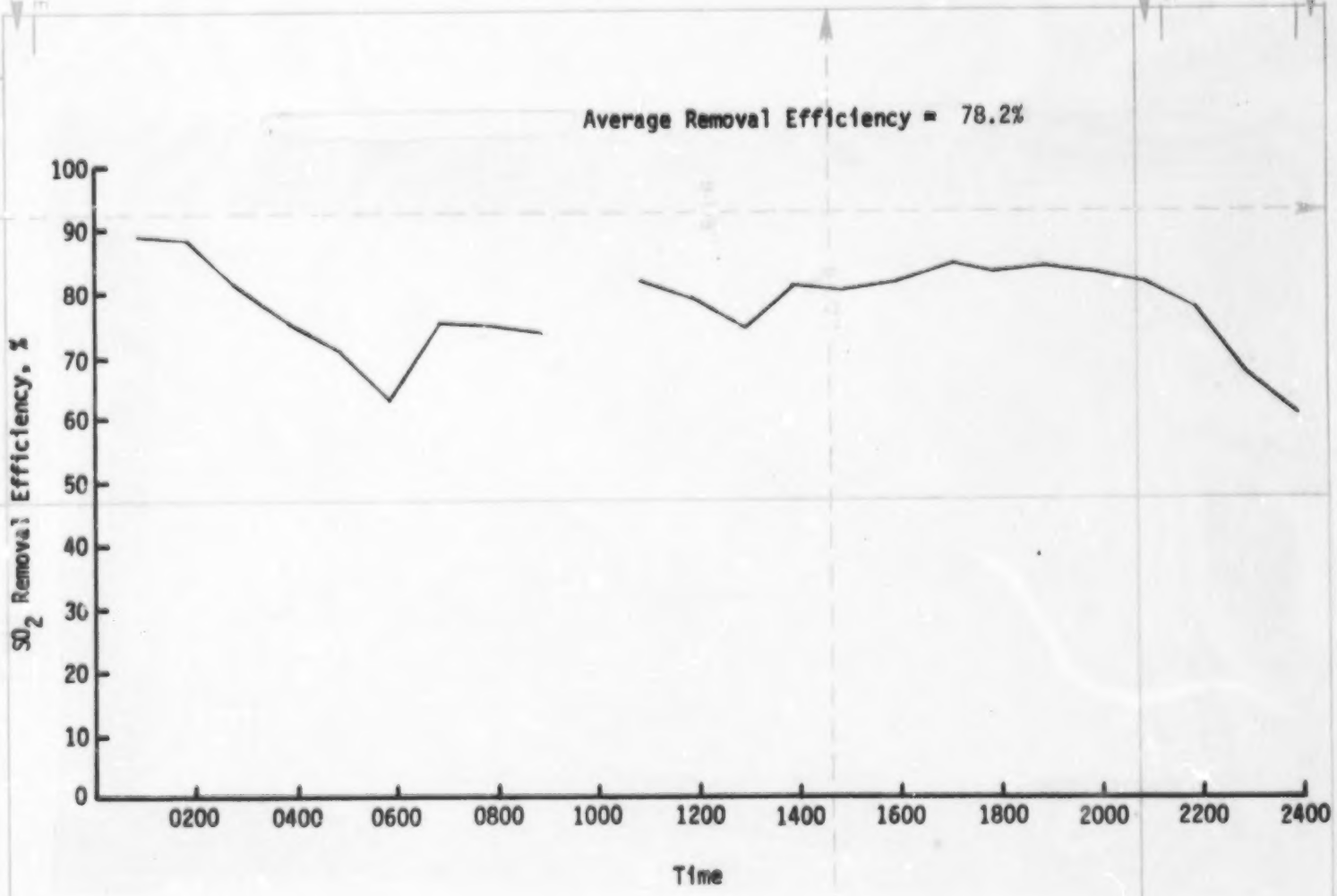

Figure C-28. SO_2 removal efficiency of dry FGD system on September 30, 1980.

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